Monitoring and Control Devices

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Introduction

Overview

The advantages at a glance

3UF7

3UF5

6ED1 052

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SIMOCODE 3UF motor management and control devices			
SIMOCODE pro 3UF7	• Compact, modular design • Unique flexibility in terms of functionality and hardware configuration	3UF7	7/5
SIMOCODE-DP 3UF5	• Wide functional range from the distributed I/O system to the autonomous motor management system • All control functions from the direct-on-line starter to the pole-changing switch with reversing contactor • All motor sizes • Integration in all PROFIBUS-capable automation systems • Application in low-voltage controlgear for motor control centers on the process industry • Increases plant availability • Saves costs during construction, commissioning and operation of the plant • Extensive data of the motor feeder available everywhere on the PROFIBUS • All protection, monitoring and control functions for the motor feeder in a single system	3UF5	7/12
3UF18 current transformers for overload protection	• Protection transformer for activating overload relays or for use with SIMOCODE 3UF • Ensures proportional current transfer up to a multiple of the primary rated current	3UF18	7/16
3UL22 summation current transformers	• Senses fault currents in machines and plants • Senses earth-fault currents	3UL22	7/17
LOGO! logic modules			
LOGO! logic modules	• Compact, user-friendly and low-cost solution for simple control tasks • Universal: - Building installation and wiring (lighting, shutters, awnings, doors, access control, barriers, ventilation systems ...) - Control cabinet installation - Machine and device construction (pumps, small presses, compressors, hydraulic lifts, conveyors ...) - Special controls for conservatories and greenhouses - Signal preprocessing for other controllers • Flexible expansion depending on the application		
LOGO! Modular basic variants	• With display, pushbuttons and an interface for connecting expansion units	6ED1 052-1	7/19
LOGO! Modular Pure variants	• Without display and pushbuttons but with an interface for connecting expansion units	6ED1 052-2	7/21
LOGO! Modular expansion modules	• For connection to LOGO! Modular basic variants with digital inputs and outputs or analog inputs and outputs	6ED1 055-1	7/23
LOGO! Modular communications modules	• For integrating LOGO! in an *instabus* KNX *EIB* system or as an AS-Interface slave	6BK1 700, 3RK1 400	7/25, 7/26
LOGO! Power	• Power supply for converting the mains voltage of 100 ... 240 V AC into an operational voltage of 24 V DC or 12 V DC	6EP1 3	Ch. 11
LOGO! Contact	• Switching module for switching resistive loads and motors directly	6ED1 057-4	7/27
LOGO! Software	• For switchgear program generation on the PC	6ED1 058	7/28

The advantages at a glance

3RP

3UG45 11

3UG46 14

		Order No.	Page
3RP timing relays			
3RP15 timing relay in industrial enclosure, 22.5 mm	• Low-cost solution with monofunctions such as response delay, off-delay, clock-pulse, wye-delta function, multifunction • Wide-range voltage designs	3RP15	7/29
3RP20 timing relay, 45 mm	• The solution for small mounting depths • The low mounting height reduces the tier spacing	3RP20	7/35
3RT19 timing relay for mounting onto contactors	• Saves space because the relay is mounted onto the contactor • Wiring advantages thanks to direct contacting to the contactor	3RT19	7/39
3UG monitoring relays for electrical and additional measurements			
Line Monitoring			
Phase sequence	• Low-cost solution for monitoring the phase sequence	3UG45 11	7/43
Phase sequence, phase failure, phase unbalance	• Wide voltage range from 160 to 690 V	3UG45 12	7/43
Phase sequence, phase failure, phase unbalance and undervoltage	• Analogically adjustable • Wide voltage range from 160 to 690 V	3UG45 13	7/43
	• Digitally adjustable with LCD display for indication of ACTUAL value and device status • Wide voltage range from 160 to 690 V	3UG46 14	7/43
Phase sequence, phase failure, phase unbalance, overvoltage and undervoltage	• Digitally adjustable with LCD display for indication of ACTUAL value and device status • Wide voltage range from 160 to 690 V	3UG46 15	7/43
Phase sequence, phase and N conductor failure, phase unbalance, overvoltage and undervoltage		3UG46 16	7/43
Automatic correction of the direction of rotation in case of wrong phase sequence, phase failure, phase unbalance, overvoltage and undervoltage		3UG46 17	7/43
Automatic correction of the direction of rotation in case of wrong phase sequence, phase and N conductor failure, phase unbalance, overvoltage and undervoltage		3UG46 18	7/43
Voltage Monitoring			
Voltage monitoring with internal power supply for overvoltage and undervoltage	• Digitally adjustable with LCD display for indication of ACTUAL value and device status • Wide measuring ranges • Variant for wide voltage range	3UG46 33	7/47
Voltage monitoring with auxiliary voltage for overvoltage and undervoltage		3UG46 31, 3UG46 32	7/47
Current Monitoring			
Current monitoring with auxiliary voltage for overshoot and undershoot	• Digitally adjustable with LCD display for indication of ACTUAL value and device status • Wide measuring ranges • Variant for wide voltage range	3UG46 21, 3UG46 22	7/48
Power factor and active current monitoring (motor load monitoring)			
Power factor and active current monitoring with internal power supply for overshoot, undershoot or window monitoring	• For monitoring over the entire torque range • Digitally adjustable with LCD display for indication of ACTUAL value and device status • Wide voltage range from 90 to 690 V	3UG46 41	7/50
Insulation resistance			
Monitoring of the insulation resistance for ungrounded AC or DC networks from 1 to 110 kΩ	• Test button • With or without storage • Switchable measuring range	3UG30 81, 3UG30 82	7/52, 7/53
Level Monitoring			
Fill level and resistance	• As single-step or two-step controls for inlet or outlet monitoring of conducting liquids or as resistance threshold switch • Adjustable, wide range from 5 ... 100 kΩ • UNDER/OVER adjustable	3UG35 01	7/54
Speed Monitoring			
Underspeed monitoring	• Together with a sensor for monitoring continuous pulses • With or without storage • Adjustable ON-delay • 1, 2 and 3 changeover contacts • Hard gold-plated contacts in combination and wide voltage range versions	3UG30 51	7/56

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Introduction

The advantages at a glance

3RS10

3RN1

3TK28

3RS17

		Order No.	Page
3RS10, 3RS11, 3RS20 temperature monitoring relays			
for monitoring the temperatures of solids, liquids, and gases			
Relays, analogically adjustable, for 1 sensor	• Separate versions for overshoot and undershoot • For simple monitoring tasks • For PT100 or thermoelements J and K • Adjustable hysteresis	3RS10, 3RS11	7/57
Relays, digitally adjustable, according to DIN 3440, for 1 sensor	• For two-step or three-step controls • For monitoring heat generation plants • For PT100/1000, KTY83/84, NTC or thermoelements type J, K, T, E, N, R, S, B	3RS10, 3RS11, 3RS20, 3RS21	7/60
Relay, digitally adjustable, for up to 3 sensors	• For simultaneously monitoring several sensors • Especially suited for monitoring motor winding temperatures • For PT100/1000, KTY83/84, NTC	3RS10	7/63
3RN1 thermistor motor protection			
For PTC sensors	• Relays for monitoring motor winding temperatures with type A PTC sensors • Integrated with ATEX approval • Closed-circuit principle • Depending on the version: With short-circuit and open-circuit detection, zero voltage safety, manual/auto/remote RESET, 1 CO, 1 NO + 1 NC, 2 CO, 1 NO + 1 CO or 2 CO hard gold-plating	3RN1	7/65
3TK28 safety relays			
With electronic enabling circuits	• Permanent function checking • No wear because switched electronically • High switching frequency • Long electrical endurance • Evaluation of solid-state sensors • Sensor lead up to max. 2000 m • Cascading possible • Insensitive to vibrations and dirt • Compact design, low weight • Approved for the world market	3TK28 4	7/70
With relay enabling circuits	• Compact design • Floating safe outputs • Also suitable for press and punch controls • Can be used up to an ambient temperature of max. 70 °C	3TK28 2, 3TK28 3	7/72
With contactor relay enabling circuits	• Enabling circuits, floating • AC-15/DC-13 switching capacity • Safe isolation • Long mechanical and electrical endurance • Certified as a complete unit • Fault minimization and cost reduction through factory wiring • Low installation costs	3TK28 5	7/75
3RA71 load feeders with integrated safety technology	• Available in fused or fuseless configuration • Enabling circuits, floating • AC-1/AC-3 switching capacity • Certified as a complete unit • Long mechanical and electrical endurance • Rated operational voltage up to 690 V • Safe isolation	3RA71	Ch. 6
3RS17 interface converters			
Converters for standard signals and non-standard variables	• All terminals protected against polarity reversing and overvoltage up to 30 V • For electrical isolation and conversion of analog signals • Short-circuit resistant outputs • From 6.2 mm width • Switchable multi-range converters • Variants with manual/automatic switch for setpoint selection • Variants for conversion of analog variables into frequency	3RS17	7/77

SIMOCODE pro 3UF7 motor management and control devices

Overview

SIMOCODEpro basic unit, expansion module and operator panel

SIMOCODE pro is a flexible, modular motor management system for motors with constant speeds in the low-voltage performance range. It optimizes the connection between I&C and motor feeder, increases plant availability and allows significant savings to be made for startup, operation and maintenance of a system.

When SIMOCODE pro is installed in the low-voltage switchboard, it is the intelligent interface between the higher-level automation system and the motor feeder and includes the following:

- Multifunctional, solid-state full motor protection which is independent of the automation system
- Flexible software instead of hardware for the motor control
- Detailed operational, service and diagnostics data
- Open communication through PROFIBUS DP, the standard for fieldbus systems

SIMOCODE ES is the software package for SIMOCODE pro parameterization, start-up and diagnostics.

Benefits

General customer benefits

- Integrating the whole motor feeder into the process control by means of a bus significantly reduces the wiring outlay between the motor feeder and PLC
- Distribution of the automated processes by means of configurable control and monitoring functions in the feeder saves resources in the automation system and ensures full functionality and protection of the feeder even if the I&C or bus system fails
- The acquisition and monitoring of operational, service and diagnostics data in the feeder and process control system increases plant availability as well as maintenance and service-friendliness
- The high degree of modularity allows users to perfectly implement their plant-specific requirements for each motor feeder
- The SIMOCODE pro system offers functionally graded and space-saving solutions for each customer application
- The replacement of the control circuit hardware with software decreases the number of hardware components and wiring required and in this way limits stock keeping costs and potential wiring errors
- The use of solid-state full motor protection permits better utilization of the motors and ensures long-term stability of the tripping characteristic and reliable tripping even after years of service

Multifunctional, solid-state full motor protection for rated motor currents up to 820 A

SIMOCODE pro offers comprehensive protection of the motor feeder by means of a combination of different, multi-step and delayable protection and monitoring functions:

- Inverse-time delayed solid-state overload protection (Class 5 ... 40)
- Thermistor motor protection
- Phase failure / unbalance protection
- Stall protection
- Monitoring of adjustable limit values for the motor current
- Voltage and power monitoring
- Monitoring of the power factor (motor idling/load shedding)
- Earth-fault monitoring
- Temperature monitoring, e.g. over PT100/PT1000
- Monitoring of operating hours, downtime and number of starts etc.

Recording of measuring curves

SIMOCODE pro can record measuring curves and therefore is able, for example, to present the progression of motor current during motor start-up.

Flexible motor control implemented with software (instead of comprehensive hardware interlocks)

Many predefined motor control functions have already been integrated into SIMOCODE pro, including all necessary logic operations and interlocks:

- Direct-on-line and reversing starters
- Star/delta starters (also with direction reversal)
- Two speeds, motors with separate windings (pole-changing switch); also with direction reversal
- Two speeds, motors with separate Dahlander windings (also with direction reversal)
- Positioner actuation
- Solenoid valve actuation
- Activation of a circuit breaker
- Soft starter actuation (also with direction reversal)

These control functions have been implemented in SIMOCODE pro by means of software and can be freely assigned to the inputs and outputs of the device (including PROFIBUS DP).

These predefined control functions can also be flexibly adapted to each customized configuration of a motor feeder by means of freely configurable logic modules (truth tables, counters, timers, edge evaluation ...) and with the help of standard functions (power failure monitoring, emergency start, external faults ...), without additional auxiliary relays being necessary in the control circuit.

SIMOCODE pro makes a lot of additional hardware and wiring in the control circuit unnecessary which results in a high level of standardization of the motor feeder in terms of its design and circuit diagrams.

SIMOCODE pro 3UF7 motor management and control devices

Detailed operational, service and diagnostics data

SIMOCODE pro makes different operational, service and diagnostics data available and helps to detect potential faults in time and to prevent them by means of preventative measures. In the event of a malfunction, a fault can be diagnosed, localized and rectified very quickly - there are no or very short downtimes.

Operating data

- Motor switching state derived from the current flow in the main circuit
- All phase currents
- All line voltages
- Active power, apparent power and power factor
- Phase unbalance and phase sequence
- Time to trip
- Motor temperature
- Remaining cooling time etc.

Service data

- Motor operating hours
- Motor stop times
- Number of motor starts
- Number of overload trips
- Internal comments stored in the device etc.

Diagnostics data

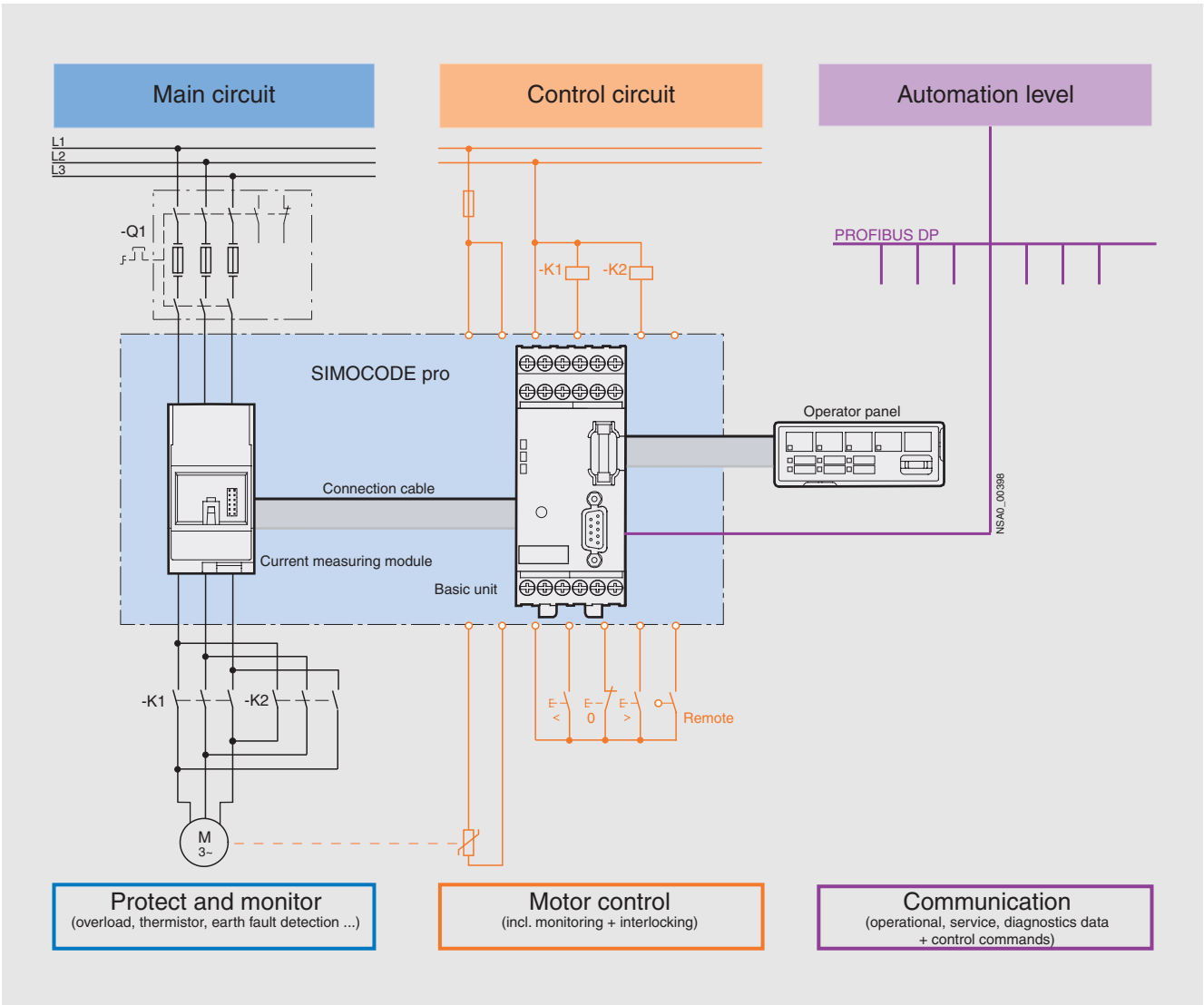
- Numerous detailed early warning and fault messages
- Internal device fault logging with time stamp
- Time stamping of freely selectable status, alarm or fault messages etc.

Communication

SIMOCODE pro is equipped with an integral PROFIBUS DP interface (SUB-D or terminal connection) and can therefore replace all individual wiring (including modular terminals), which would usually be required for exchanging data with the higher-level automation system, with a single 2-wire cable.

SIMOCODE pro supports among other things:

- Baud rates up to 12 Mbit/s
- Automatic baud rate detection
- Communication with up to 3 masters
- Time synchronization over PROFIBUS
- Cyclic services (DPV0) and acyclic services (DPV1)
- DPV1 communication after the Y-Link etc.



SIMOCODE pro combines all the necessary functions for the motor feeder in a compact system.

Application

SIMOCODE pro is often used for automated processes where plant downtimes are very expensive (e.g. steel or cement industry) and where it is important to prevent plant downtimes through detailed operational, service and diagnostics data or to localize the fault very quickly in the event of a malfunction.
SIMOCODE pro is modular and space-saving and suited especially for operation in motor control centers in the process industry and for power plant technology.

Applications

Protection and control of motors
- In hazardous areas for types of protection EEx e/d according to ATEX directive 94/9/EC
- With heavy starting (paper, cement, metal and water industries)
- In high-availability plants (chemical, oil, raw material processing industries, power plants)

Industries

Today, SIMOCODE pro is mainly used in the chemical (incl. oil and gas), steel, water, paper, pharmaceutical, cement, and glass industry. It is also used for applications in power plants and large diamond, gold and platinum mines. Based on the experience made with the predecessor system SIMOCODE-DP, SIMOCODE pro has been tailored even more specifically to the requirements of these industries. An essential requirement in these industries is the availability of the motors and thus the availability of the whole process. Plant downtimes caused by faults frequently result in high costs. For this reason, it is very important to detect potential faults early on and to initiate targeted countermeasures. SIMOCODE pro offers users an up-to-date motor management system based on years of experience.

Selection and ordering data

Version	Current setting	Width	DT	Screw terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	A	mm							kg
SIMOCODE pro									
 3UF7 000-1A.00-0									
SIMOCODE pro C, basic units 1 PROFIBUS DP interface, 12 Mbit/s, RS 485 4 I/3 O freely assignable, input for thermistor connection, monostable relay outputs, rated control supply voltage U_s:									
• 24 V DC			A	**3UF7 000-1AB00-0**		1	1 unit	131	0.350
• 110 ... 240 V AC/DC			A	**3UF7 000-1AU00-0**		1	1 unit	131	0.350
 3UF7 010-1A.00-0									
SIMOCODE pro V, basic units 2 PROFIBUS DP interface, 12 Mbit/s, RS 485 4 I/3 O freely assignable, input for thermistor connection, monostable relay outputs, can be expanded with expansion modules, rated control supply voltage U_s:									
• 24 V DC			A	**3UF7 010-1AB00-0**		1	1 unit	131	0.350
• 110 ... 240 V AC/DC			A	**3UF7 010-1AU00-0**		1	1 unit	131	0.350
 3UF7 100-1AA00-0									
Current measuring modules									
Straight-through transformers									
	0.3 ... 3	45	A	**3UF7 100-1AA00-0**		1	1 unit	131	0.100
	2.4 ... 25	45	A	**3UF7 101-1AA00-0**		1	1 unit	131	0.150
	10 ... 100	55	A	**3UF7 102-1AA00-0**		1	1 unit	131	0.350
	20 ... 200	120	A	**3UF7 103-1AA00-0**		1	1 unit	131	0.600
Busbar connection									
	20 ... 200	120	A	**3UF7 103-1BA00-0**		1	1 unit	131	1.000
	63 ... 630	145	A	**3UF7 104-1BA00-0**		1	1 unit	131	1.750
 3UF7 110-1AA00-0									
Current/voltage measuring modules[1] Voltage measuring up to 690 V									
Straight-through transformers	0.3 ... 3	45	C	**3UF7 110-1AA00-0**		1	1 unit	131	0.150
	2.4 ... 25	45	A	**3UF7 111-1AA00-0**		1	1 unit	131	0.200
	10 ... 100	55	A	**3UF7 112-1AA00-0**		1	1 unit	131	0.400
	20 ... 200	120	A	**3UF7 113-1AA00-0**		1	1 unit	131	0.700
Busbar connections	20 ... 200	120	A	**3UF7 113-1BA00-0**		1	1 unit	131	1.000
	63 ... 630	145	A	**3UF7 114-1BA00-0**		1	1 unit	131	1.750
 3UF7 200-1AA00-0									
Operator panels Installation in control cabinet door or front plate, for plugging into basic unit, 10 LEDs for status display and user-assignable buttons for manual control			A	**3UF7 200-1AA00-0**		1	1 unit	131	0.100

See footnote page 7/8.

* You can order this quantity or a multiple thereof.

SIMOCODE pro 3UF7
motor management and control devices

Version	Current setting	Width	DT	Screw terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	A	mm							kg
Expansion modules									
Note: Expansion modules can only be used in combination with basic unit 2! A total of up to 5 expansion modules can be connected in any order to one basic unit.									
Digital modules 4 binary inputs and 2 relay outputs, up to 2 digital modules can be connected per basic unit 2			A	**3UF7 3□0-1A□00-0**		1	1 unit	131	0.150
Order No. supplements									
Relay outputs									
monostable				**0**					
bistable				**1**					
Input voltage									
24 V DC					**B**				
110 ... 240 V AC/DC					**U**				
Analog modules[1] 2 inputs for input and 1 output for output 0/4 ...20 mA signals, up to 1 analog module can be connected per basic unit 2			A	**3UF7 400-1AA00-0**		1	1 unit	131	0.150
Earth-fault modules[1] 1 input for connecting a 3UL22 summation current transformer; up to 1 earth-fault module can be connected per basic unit 2			A	**3UF7 500-1AA00-0**		1	1 unit	131	0.150
Temperature modules[1] 3 inputs for connecting up to 3 analog temperature sensors, up to 1 temperature module can be connected per basic unit 2			A	**3UF7 700-1AA00-0**		1	1 unit	131	0.150


3UF7 300-1AU00-0


3UF7 400-1AA00-0

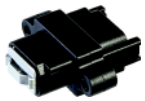

3UF7 500-1AA00-0


3UF7 700-1AA00-0

[1] Only possible with basic unit 2, product version E02 and higher (from April 2005).

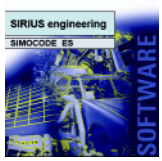
* You can order this quantity or a multiple thereof.

Accessories

Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
Connection cables							
 3UF7 932-0AA00-0 **Connection cables** in different lengths for connecting basic unit, current measuring module, current/voltage measuring module, operator panel or expansion modules:							
• Length 0.025 m (ribbon) Note: Only suitable for connecting basic unit 2 to its expansion modules or for connecting expansion modules to each other; only when the front plates finish at the same height!	B	**3UF7 930-0AA00-0**		1	1 unit	131	0.010
• Length 0.1 m (ribbon)	B	**3UF7 931-0AA00-0**		1	1 unit	131	0.010
• Length 0.3 m (ribbon)	A	**3UF7 935-0AA00-0**		1	1 unit	131	0.020
• Length 0.5 m (ribbon)	B	**3UF7 932-0AA00-0**		1	1 unit	131	0.020
• Length 0.5 m (round)	A	**3UF7 932-0BA00-0**		1	1 unit	131	0.050
• Length 1.0 m (round)	A	**3UF7 937-0BA00-0**		1	1 unit	131	0.100
• Length 2.5 m (round)	A	**3UF7 933-0BA00-0**		1	1 unit	131	0.150
PC cables							
 3UF7 940-0AA00-0 **For PC/PG communication with SIMOCODE pro** through the system interface, for connecting to the serial interface of the PC/PG	B	**3UF7 940-0AA00-0**		1	1 unit	131	0.150
Memory modules							
 3UF7 900-0AA00-0 **For parameterizing SIMOCODE pro without using a PC/PG** through the system interface	A	**3UF7 900-0AA00-0**		1	1 unit	131	0.010
Interface covers							
For system interface	A	**3UF7 950-0AA00-0**		1	5 units	131	0.100
Addressing plugs							
 3UF7 910-0AA00-0 **For assigning the PROFIBUS addresses without using a PC/PG** on a basic unit through the system interface	B	**3UF7 910-0AA00-0**		1	1 unit	131	0.030
Door adapters							
 3UF7 920-0AA00-0 **For external connection of the system interface** outside, for example, a control cabinet	A	**3UF7 920-0AA00-0**		1	1 unit	131	0.030
Push-in lugs							
 3RB19 00-0B **For screw fixing** e.g. on mounting plate, 2 units required per device							
can be used with 3UF7 1.0, 3UF7 1.1 and 3UF7 1.2	C	**3RB19 00-0B**		100	10 units	101	0.100
can be used with 3UF7 0, 3UF7 3, 3UF7 4, 3UF7 5 and 3UF7 7	►	**3RP1 903**		1	10 units	101	0.002
Terminal covers							
 3RT19 56-4EA1 **Covers for cable lugs and rail connections**							
• Length 100 mm, can be used for 3UF7 1.3-1BA00-0	►	**3RT19 56-4EA1**		1	1 unit	101	0.067
• Length 120 mm, can be used for 3UF7 1.4-1BA00-0	►	**3RT19 66-4EA1**		1	1 unit	101	0.124
Covers for box terminals							
• Length 25 mm, can be used for 3UF7 1.3-1BA00-0	►	**3RT19 56-4EA2**		1	1 unit	101	0.028
• Length 30 mm, can be used for 3UF7 1.4-1BA00-0	►	**3RT19 66-4EA2**		1	1 unit	101	0.038
 3RT19 56-4EA2 **Covers for screw terminals** between contactor and current measuring module or current/voltage measuring module for direct mounting							
Can be used for 3UF7 1.3-1BA00-0	►	**3RT19 56-4EA3**		1	1 unit	101	0.021
Can be used for 3UF7 1.4-1BA00-0	►	**3RT19 66-4EA3**		1	1 unit	101	0.062

*** You can order this quantity or a multiple thereof.**

SIMOCODE pro 3UF7
motor management and control devices

	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
Box terminal blocks								
 3RT19 5.-4G	For round and ribbon cables							
	up to 70 mm², can be used for 3UF7 1.3-1BA00-0	►	**3RT19 55-4G**		1	1 unit	101	0.237
	up to 120 mm², can be used for 3UF7 1.3-1BA00-0	►	**3RT19 56-4G**		1	1 unit	101	0.270
	up to 240 mm², can be used for 3UF7 1.4-1BA00-0	►	**3RT19 66-4G**		1	1 unit	101	0.676
	for conductor cross-sections , see LV 1 T "Technical Information"							
System manuals								
 3UF7 970-0AA01-0	**SIMOCODE pro** with token fee, languages:							
	• German	B	**3UF7 970-0AA01-0**		1	1 unit	131	0.850
	• English	B	**3UF7 970-0AA00-0**		1	1 unit	131	0.850
	• French	B	**3UF7 970-0AA02-0**		1	1 unit	131	0.850
PCS 7 function block library for SIMOCODE pro								
 3UF7 982-0AA00-0	**For integrating SIMOCODE pro into the PCS 7 process control system**							
	PCS 7 function block library for SIMOCODE pro, V6.0 Scope of supply: AS modules and faceplates for integrating SIMOCODE pro into the PCS 7 process control system, for PCS 7 Version V6.0 Engineering software for one engineering station (single license) including runtime software for execution of the AS module in an automation system (single license), English/German Type of delivery: CD incl. documentations	A	**3UF7 982-0AA00-0**		1	1 unit	131	0.240
	PCS 7 function block library for SIMOCODE pro, V6.1 Scope of supply: AS modules and faceplates for integrating SIMOCODE pro into the PCS 7 process control system, for PCS 7 Version V6.1 Engineering software for one engineering station (single license) including runtime software for execution of the AS module in an automation system (single license), English/German Type of delivery: CD incl. documentation	A	**3UF7 982-0AA02-0**		1	1 unit	131	0.240
	AS modules for integrating SIMOCODE pro into the PCS 7 process control system, for PCS 7 Version V6.x Runtime software for execution of the AS module in an automation system (single license), license without software and documentation	A	**3UF7 982-0AA01-0**		1	1 unit	131	0.001
SIMOCODE ES								
 3ZS1 312-1CC10-0YA0	**Parameterization and service software for SIMOCODE pro** Executes on PC/PG under Windows 2000/XP, without PC cable Type of delivery: CD, single license Variants:							
	• **SIMOCODE ES Smart**, for parameterizing through the system interface on the device	B	**3ZS1 312-1CC10-0YA0**		1	1 unit	131	0.230
	• **SIMOCODE ES Professional**, for parameterizing through PROFIBUS or the system interface on the device, incl. STEP 7 object manager	B	**3ZS1 312-2CC10-0YA0**		1	1 unit	131	0.230
	• **SIMOCODE ES Graphic**, optional expansion of SIMOCODE ES Smart/ Professional with a graphical editor for ergonomic and user-friendly parameterization by means of Drag & Drop Requirements (minimum): Installed SIMOCODE ES Smart 2004 with SP1 or installed SIMOCODE ES Professional 2004 with SP1	A	**3ZS1 312-3CC10-0YA0**		1	1 unit	131	0.230

* You can order this quantity or a multiple thereof.

More information

Important ordering notes

SIMOCODE pro is a modularly constructed motor management system which is subdivided into two device series with different functional scopes:

- SIMOCODE pro C,
  as a compact system for direct-on-line starters and reversing starters
- SIMOCODE pro V,
  as a variable system with all control functions and with the possibility of expanding the inputs, outputs and functions of the system at will using expansion modules.

Expansion possibilities	SIMOCODE pro C, Basic Unit 1	SIMOCODE pro V, Basic Unit 2
Operator panels	•	•
Current measuring modules	•	•
Current/voltage measuring modules	--	•
Expansion modules:		
• Digital modules (max. 2)	--	•
• Analog module (max. 1)	--	•
• Earth-fault module (max. 1)	--	•
• Temperature module (max. 1)	--	•

• Available
-- Not available

Protection, control and monitoring functions as well as the data and measured values deliverable by each system are directly dependent on the device configuration selected and on the expansion modules used. A detailed description of the functionality of all SIMOCODE pro system components can be found in the system manual or LV 1 T "Technical Information".

System manual

For selection of equipment and for configuration, it is recommended that the 3UF7 970-0AA0.-0 system manual is consulted.

Internet

You can find further information on the Internet at:
http://www.siemens.com/simocode

SIMOCODE-DP 3UF5
motor protection and control devices

Overview

SIMOCODE-DP basic unit, expansion module and operator module

SIMOCODE-DP is the predecessor of the SIMOCODE pro motor management system and offers the solution for a wide range of different tasks in a single unit:

- Multifunctional, electronic motor protection and plant monitoring
- Comprehensive motor and plant diagnostics
- Integrated control programs (instead of extensive hardware wiring)
- Open communication through PROFIBUS DP, the standard for fieldbus systems

Selection and ordering data

Basic units

3UF5 001 to 021

3UF5 031 to 051

Version			DT	Screw terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
4 inputs, 4 outputs for snap-on mounting onto 35 mm standard mounting rail									
Contactors that can be mounted externally Type	Width mm	Setting range A							
--	70	1.25[1] ... 6.3	C	**3UF5 001-3□□□0-1**		1	1 unit	131	0.800
--	70	6.3 ... 25	C	**3UF5 011-3□□□0-1**		1	1 unit	131	0.800
--	70	25 ... 100	C	**3UF5 021-3□□□0-1**		1	1 unit	131	0.800
3RT10 5	120	50 ... 205	C	**3UF5 031-3□□□0-1**		1	1 unit	131	1.640
3RT10 6, 3RT10 7 3RT12 6, 3RT12 7	145	125 ... 500	C	**3UF5 041-3□□□0-1**		1	1 unit	131	2.420
3TF68, 3TF6 9	230	200 ... 820	C	**3UF5 051-3□□□0-1**		1	1 unit	131	4.330

	Order No. supplements	Add. price[2]
Inputs		
Input for thermistor motor protection	**A**	--
Earth-fault detection input (external) (sensing of earth-fault currents of sizes 0.3 A, 0.5 A and 1 A with 3UL2 20.-A. summation current transformers)	**B**	--
Rated control voltage		
24 V DC	**B**	x
115 V AC	**J**	--
230 V AC	**N**	--
Behavior of the outputs in case of control supply voltage failure		
monostable	**0**	--
bistable	**1**	x

x = with additional price

-- = without additional price

[1] The current setting range of 0.25 ... 1.25 A is obtained by multiple looping of the main circuits through the current transformers of the basic unit.

[2] Totals are rounded up and down. This may lead to slight differences in the overall price.

Expansion modules

3UF5 100-0A.00

Version	DT	Screw terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
8 inputs, 4 outputs for snap-on mounting onto 35 mm standard mounting rail External supply voltage for the inputs							
24 V DC	A	**3UF5 100-0AB00**		1	1 unit	131	0.422
115 V AC	A	**3UF5 100-0AJ00**		1	1 unit	131	0.442
230 V AC	A	**3UF5 100-0AN00**		1	1 unit	131	0.445

Operator panels

3UF5 202-1AA00-1

For installation in the control cabinet door for plugging into basic unit or expansion module	A	**3UF5 202-1AA00-1**	1	1 unit	131	0.137

*** You can order this quantity or a multiple thereof.**

SIMOCODE-DP 3UF5
motor protection and control devices

Accessories

	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
Configuration software								
 3UF5 710-0AA00-0	**Win-SIMOCODE-DP/Professional** • Parameterization, control, visualization and testing of SIMOCODE-DP: through PROFIBUS or the system interface on the device • PC/PG requirement: Windows 95/98/2000/NT/ME or Windows XP • PC/PG interface requirement: PROFIBUS system interface from Siemens or RS 232 with compatible 3RW2 920-1DA00 interface cable • SIMOCODE-DP requirement: Delivery stage E10 (as of June 1998) • Type of delivery: CD-ROM, English/German incl. online Help and example parameter files, single license	A	**3UF5 710-0AA00-0**		1	1 unit	131	0.230
 3UF5 711-0AA00-0	**Win-SIMOCODE-DP/Smart** • Parameterization, control, visualization and testing: through the interface on the device • PC/PG requirement: Windows 95/98/2000/NT/ME or Windows XP • PC/PG interface requirement: RS 232 with compatible 3RW2 920-1DA00 interface cable • Type of delivery: CD-ROM, English/German incl. online Help and example parameter files, single license	A	**3UF5 711-0AA00-0**		1	1 unit	131	0.231
	OM-SIMOCODE-DP STEP 7 Object Manager for integrating SIMOCODE-DP as S7 slave and for call of Win-SIMOCODE-DP/Professional from STEP 7 • Requirements: STEP 7, Version 4.0 or higher • SIMOCODE-DP requirement: Delivery stage E10 (as of June 1998) • Type of delivery: CD-ROM, English/German incl. online Help, single license	A	**3UF5 712-0AA00-0**		1	1 unit	131	0.231
	PCS 7 SIMOCODE-DP function blocks Function block for integrating SIMOCODE-DP into the process control system, PCS 7, Version V6.0 • SIMOCODE-DP requirement: Delivery stage E10 and higher (as of June 1998) • Type of delivery: CD-ROM, English/German, single license	A	**3UF5 720-0AA10-0**		1	1 unit	131	0.230
Documentation								
	System manuals with description of the communication through PROFIBUS DP and a configuration example							
	• German	A	**3UF5 700-0AA00-0**		1	1 unit	131	0.841
	• English	A	**3UF5 700-0AA00-1**		1	1 unit	192	0.749

* You can order this quantity or a multiple thereof.

SIMOCODE-DP 3UF5 motor protection and control devices

	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
Connection cables, installation materials								
	Connection cables for PC communication through the system interface on the device Length 5 m	A	**3RW29 20-1DA00**		1	1 unit	131	0.176
 3UF1 900-1MA00 3UF1 900-1NA00 3UF1 900-1PA00	**Plug-in connectors/connecting cables** with 3UF5 9/3UF1 9 connectors							
	• For connecting the basic unit to the expansion module, 9-pole, 0.03 m, flat connector shielded	A	**3UF5 900-1AA00**		1	1 unit	131	0.020
	• For connecting the basic unit to the expansion module or to the operator panel, 9-pole							
	- 0.5 m long, shielded connector, 45° angled	B	**3UF1 900-1MA00**		1	1 unit	131	0.077
	- 2.0 m long, shielded connector, 45° angled	B	**3UF1 900-1NA00**		1	1 unit	131	0.168
	- 2.5 m long, shielded connector, 45° angled	B	**3UF1 900-1PA00**		1	1 unit	131	0.197
 3UF1 900-1DA00 3UF1 900-1EA00	- 0.5 m long, with flat connector, shielded	A	**3UF1 900-1DA00**		1	1 unit	131	0.062
	- 1.0 m long, with flat connector, shielded	A	**3UF1 900-1EA00**		1	1 unit	131	0.088
	• For connecting basic unit/expansion module to the control cabinet door It is possible to set parameters, operate and monitor using the PC from the control cabinet door, 9-pole							
	- 0.5 m long, with flat connector and socket, shielded	A	**3UF5 900-0AA00**		1	1 unit	131	0.061
	- 1.0 m long, with flat connector and socket, shielded	A	**3UF5 900-0BA00**		1	1 unit	131	0.095
	T-shaped terminals Terminal for bus connection to PROFIBUS DP - RS 485	A	**3UF5 900-1GA00**		1	1 unit	131	0.048
	3UF1 900 bus terminations Bus termination module with separate supply voltage for terminating the bus following the last unit on the bus line. Supply voltage:							
	115/230 V AC	A	**3UF1 900-1KA00**		1	1 unit	131	0.286
	24 V DC	A	**3UF1 900-1KB00**		1	1 unit	131	0.192
Push-in lugs								
 3RB19 00-0B	For screw mounting on mounting plate 2 units are required for each 3UF5 0	C	**3RB19 00-0B**		100	10 units	101	0.100
Terminal covers								
 3TX7 506-0A	• For stand-alone installation or on the output side for direct mounting							
	- 3UF5 031	D	**3TX7 506-0A**		1	1 unit	101	0.041
	- 3UF5 041	D	**3TX7 536-0A**		1	2 units	101	0.112
	- 3UF5 051 with 3TF68	B	**3TX7 686-0A**		1	1 set	101	0.410
	- 3UF5 051 with 3TF69	B	**3TX7 696-0A**		1	1 set	101	0.402
 3TX7 506-0B	• Between contactor and overload relay for direct mounting							
	- 3UF5 031	D	**3TX7 506-0B**		1	1 unit	101	0.019
	- 3UF5 041	D	**3TX7 536-0B**		1	1 unit	101	0.057
	- 3UF5 051 with 3TF68	C	**3TX7 686-0B**		1	1 unit	101	0.085
	- 3UF5 051 with 3TF69	C	**3TX7 696-0B**		1	2 units	101	0.102

More information

System manual

For selection of equipment and for configuration, it is recommended that the 3UF5 7 system manual is consulted.

Internet

More information can be found on the Internet under http://www.siemens.com/simocode-dp

*** You can order this quantity or a multiple thereof.**

3UF18 current transformers for overload protection

Overview

The 3UF18 current transformers are protection transformers and are used for actuating overload relays. Protection transformers are designed to ensure proportional current transfer up to a multiple of the primary rated current.

The 3UF18 current transformers convert the maximum current of the corresponding operating range into the standard signal 1 A secondary.

Selection and ordering data

Mounting type	Operating range	DT	Screw terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	A							kg
For stand-alone installation								
 3UF18 43								
Screw mounting and snap-on mounting onto 35 mm standard mounting rail	0.25 … 2.5[1]	C	**3UF18 43-1BA00**		1	1 unit	131	0.488
	1.25 … 12.5[1]	C	**3UF18 43-2AA00**		1	1 unit	131	0.485
	2.5 … 25[1]	C	**3UF18 43-2BA00**		1	1 unit	131	0.490
	12.5 … 50	C	**3UF18 45-2CA00**		1	1 unit	131	0.694
	16 … 65	C	**3UF18 47-2DA00**		1	1 unit	131	1.182
	25 … 100	C	**3UF18 48-2EA00**		1	1 unit	131	1.232
For mounting onto contactors and stand-alone installation								
 3UF18 68								
Screw mounting	32 … 130	C	**3UF18 50-3AA00**		1	1 unit	131	1.745
	50 … 200	C	**3UF18 52-3BA00**		1	1 unit	131	1.890
	63 … 250	C	**3UF18 54-3CA00**		1	1 unit	131	3.618
	100 … 400	C	**3UF18 56-3DA00**		1	1 unit	131	3.851
	125 … 500	C	**3UF18 57-3EA00**		1	1 unit	131	4.138
	160 … 630	C	**3UF18 68-3FA00**		1	1 unit	131	7.782
	205 … 820	C	**3UF18 68-3GA00**		1	1 unit	131	8.920

[1] The following setting ranges for the protection of EEx e motors are applicable:
3UF18 43-1BA00, 0.25 A ... 1.25 A
3UF18 43-2AA00, 1.25 A ... 6.3 A
3UF18 43-2BA00, 2.5 A ... 12.5 A

Accessories

For contactor type	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
							kg
Terminal covers							
 3TX7 466-0A							
For transformer/contactor combinations and stand-alone installation for transformer (cover required per connection side)							
3UF18 45	D	**3TX7 446-0A**		1	1 unit	101	0.006
3UF18 48	D	**3TX7 466-0A**		1	1 unit	101	0.035
3UF18 50, 3UF18 52	D	**3TX7 506-0A**		1	1 unit	101	0.041
3UF18 54 to 3UF18 57	D	**3TX7 536-0A**		1	2 units	101	0.112
3UF18 68-3FA00	B	**3TX7 686-0A**		1	1 set	101	0.410
3UF18 68-3GA00	B	**3TX7 696-0A**		1	1 set	101	0.402
For covering the screw terminal for direct mounting on contactor (cover required per contactor/ transformer combination)							
3UF18 48	D	**3TX7 466-0B**		1	1 unit	101	0.013
3UF18 50, 3UF18 52	D	**3TX7 506-0B**		1	1 unit	101	0.019
3UF18 54 to 3UF18 57	D	**3TX7 536-0B**		1	1 unit	101	0.057
3UF18 68-3FA00	C	**3TX7 686-0B**		1	1 unit	101	0.085
3UF18 68-3GA00	C	**3TX7 696-0B**		1	2 units	101	0.102

* You can order this quantity or a multiple thereof.

Overview

The 3UL22 summation current transformers sense fault currents in machines and plants. Together with the 3UL21 evaluation unit or the SIMOCODE 3UF motor management and control device they enable residual-current and earth-fault monitoring.

Application

The residual-current operated circuit breaker circuit is designed to prevent an excessively high touch voltage remaining in existence on a conductive part of the plant not belonging to the operating circuit. A residual current which exceeds a certain value will disconnect all poles of the incoming leads, including any neutral conductor that may be present, within 0.2 s.

Selection and ordering data

3UL22 0.-.A

Feed-through opening diameter	Rated fault current $I_{\Delta n}$	DT	Screw terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
mm	A							kg
Summation current transformers for external earth-fault monitoring								
40	0.3	B	**3UL22 01-1A**		1	1 unit	101	0.571
	0.5	C	**3UL22 01-2A**		1	1 unit	101	0.408
	1	B	**3UL22 01-3A**		1	1 unit	101	0.324
65	0.3	B	**3UL22 02-1A**		1	1 unit	101	0.900
	0.5	B	**3UL22 02-2A**		1	1 unit	101	0.713
	1	B	**3UL22 02-3A**		1	1 unit	101	0.568
	10	B	**3UL22 02-2B**		1	1 unit	101	0.563
	16	B	**3UL22 02-3B**		1	1 unit	101	0.573
	25	B	**3UL22 02-4B**		1	1 unit	101	0.575
	40	B	**3UL22 02-5B**		1	1 unit	101	0.564
120	0.3	B	**3UL22 03-1A**		1	1 unit	101	3.435
	0.5	B	**3UL22 03-2A**		1	1 unit	101	2.810
	1	B	**3UL22 03-3A**		1	1 unit	101	1.965
	6	B	**3UL22 03-1B**		1	1 unit	101	1.955
	10	B	**3UL22 03-2B**		1	1 unit	101	1.990

*** You can order this quantity or a multiple thereof.**

General data

Overview

- The compact, user-friendly, and low-cost solution for simple control tasks
- Compact, user-friendly, can be used universally without accessories
- All in one: the display and operator panel are integrated
- 36 different functions can be linked at a press of a button or with PC software; up to 130 times in total
- Functions can be changed simply using buttons; no complicated rewiring

Catalog ST 70:

Information on LOGO! can also be found in the catalog ST 70:

http://www.siemens.com/automation/salesmaterial-as/catalog/en/st70k1ae.pdf

Application

The LOGO! logic module is the user-friendly, low-cost solution for simple control tasks.

LOGO! is universally applicable, e.g.:

- Building installation and wiring (lighting, shutters, awnings, doors, access control, barriers, ventilation systems ...)
- Control cabinet installation
- Machine and device construction (pumps, small presses, compressors, hydraulic lifts, conveyors ...)
- Special controls for conservatories and greenhouses
- Signal preprocessing for other controllers

The LOGO! Modular logic modules can be expanded easily for each application.

Marine approvals

American Bureau of Shipping, Bureau Veritas, Det Norske Veritas, Germanischer Lloyd, Lloyds Register of Shipping; Polski Rejestr Statków

Overview

- The space-saving basic variants
- Interface for connecting expansion modules, max. 24 digital inputs, 16 digital outputs, 8 analog inputs and 2 analog outputs can be addressed

Selection and ordering data

Version	DT	Screw terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
LOGO! logic modules 24 Supply voltage 24 V DC, 8 digital inputs 24 V DC, of which 2 can be used as analog inputs (0 to 10 V), 4 digital outputs 24 V DC, 0.3 A; 130 function blocks can be combined, modular expandability	A	**6ED1 052-1CC00-0BA5**		1	1 unit	200	0.191
LOGO! 12/24RC logic modules Supply voltage 12/24 V DC, 8 digital inputs 12/24 V DC, of which 2 can be used as analog inputs (0 to 10 V), 4 relay outputs 10 A, integrated time switch; 130 function blocks can be combined, modular expandability	A	**6ED1 052-1MD00-0BA5**		1	1 unit	200	0.228
LOGO! 24RC logic modules Supply voltage 24 V AC/DC, 8 digital inputs 24 V AC/DC, 4 relay outputs 10 A, integrated time switch; 130 function blocks can be combined, modular expandability	A	**6ED1 052-1HB00-0BA5**		1	1 unit	200	0.231
LOGO! 230RC logic modules Supply voltage 115/230 V AC/DC, 8 digital inputs 115/230 V AC/DC, 4 relay outputs 10 A, integrated time switch; 130 function blocks can be combined, modular expandability	A	**6ED1 052-1FB00-0BA5**		1	1 unit	200	0.232

*** You can order this quantity or a multiple thereof.**

LOGO! Modular basic variants

Accessories

Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
LOGO! Manuals							
• German	A	**6ED1 050-1AA00-0AE6**		1	1 unit	200	0.450
• English	A	**6ED1 050-1AA00-0BE6**		1	1 unit	200	0.401
• French	B	**6ED1 050-1AA00-0CE6**		1	1 unit	200	0.400
• Spanish	B	**6ED1 050-1AA00-0DE6**		1	1 unit	200	0.406
• Italian	B	**6ED1 050-1AA00-0EE6**		1	1 unit	200	0.402
LOGO! Memory Cards for copying, with know-how protection	A	**6ED1 056-5CA00-0BA0**		1	1 unit	200	0.004
LOGO! Soft Comfort V5.0 for programming on the PC in LAD/FBD; runs on Windows 98 SE and higher, Linux, MAC OSX; on CD-ROM	A	**6ED1 058-0BA01-0YA0**		1	1 unit	200	0.101
LOGO! Soft Comfort Upgrade from V1.0 to V5.0	A	**6ED1 058-0CA01-0YE0**		1	1 unit	200	0.098
LOGO! PC cables for transferring programs between LOGO! and PC	A	**6ED1 057-1AA00-0BA0**		1	1 unit	200	0.159
Front panel assembly kits							
• Width: 4 MW	C	**6AG1 057-1AA00-0AA0**		1	1 unit	470	0.150
• Width: 8 MW	C	**6AG1 057-1AA00-0AA1**		1	1 unit	470	0.170
• Width: 8 MW, with pushbuttons	C	**6AG1 057-1AA00-0AA2**		1	1 unit	470	0.170
LOGO! News Box, 12/24 V contains LOGO! 12/24RC, LOGO! PC cable, LOGO! Soft Comfort, Tips&Tricks manual, screw driver, information material							
• German	A	**6ED1 057-3BA00-0AA4**		1	1 unit	2Z0	2.200
• English	A	**6ED1 057-3BA00-0BA4**		1	1 unit	2Z0	2.200
LOGO! News Box, 230 V contains LOGO! 230RC, LOGO! PC cable, LOGO! Soft Comfort, Tips&Tricks manual, screw driver, information material							
• German	A	**6ED1 057-3AA01-0AA0**		1	1 unit	2Z0	2.200
• English	A	**6ED1 057-3AA01-0BA0**		1	1 unit	2Z0	2.340

* You can order this quantity or a multiple thereof.

Overview

- The cost-optimized basic variants
- Interface for connecting expansion modules, max. 24 digital inputs, 16 digital outputs, 8 analog inputs and 2 analog outputs can be addressed

Selection and ordering data

Version	DT	Screw terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
LOGO! logic modules 24o Supply voltage 24 V DC, 8 digital inputs 24 V DC, of which 2 can be used as analog inputs (0 to 10 V), 4 digital outputs 24 V DC, 0.3 A; without display and keyboard; 130 function blocks can be combined, modular expandability	A	**6ED1 052-2CC00-0BA5**		1	1 unit	200	0.175
LOGO! 12/24RCo logic modules Supply voltage 12/24 V DC, 8 digital inputs 12/24 V DC, of which 2 can be used as analog inputs (0 to 10 V), 4 relay outputs 10 A, integrated time switch; without display and keyboard; 130 function blocks can be combined, modular expandability	A	**6ED1 052-2MD00-0BA5**		1	1 unit	200	0.213
LOGO! 24RCo logic modules Supply voltage 24 V AC/DC, 8 digital inputs 24 V AC/DC, 4 relay outputs 10 A, integrated time switch; without display and keyboard; 130 function blocks can be combined, modular expandability	A	**6ED1 052-2HB00-0BA5**		1	1 unit	200	0.220
LOGO! 230RCo logic modules Supply voltage 115/230 V AC/DC, 8 digital inputs 115/230 V AC/DC, 4 relay outputs 10 A, integrated time switch; without display and keyboard; 130 function blocks can be combined, modular expandability	A	**6ED1 052-2FB00-0BA5**		1	1 unit	200	0.217

*** You can order this quantity or a multiple thereof.**

LOGO! Modular pure variants

Accessories

Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
LOGO! Manuals							
• German	A	**6ED1 050-1AA00-0AE6**		1	1 unit	200	0.450
• English	A	**6ED1 050-1AA00-0BE6**		1	1 unit	200	0.401
• French	B	**6ED1 050-1AA00-0CE6**		1	1 unit	200	0.400
• Spanish	B	**6ED1 050-1AA00-0DE6**		1	1 unit	200	0.406
• Italian	B	**6ED1 050-1AA00-0EE6**		1	1 unit	200	0.402
LOGO! Memory Cards for copying, with know-how protection	A	**6ED1 056-5CA00-0BA0**		1	1 unit	200	0.004
LOGO! Soft Comfort V5.0 for programming on the PC in LAD/FBD; runs on Windows 98 SE and higher, Linux, MAC OSX; on CD-ROM	A	**6ED1 058-0BA01-0YA0**		1	1 unit	200	0.101
LOGO! Soft Comfort Upgrade from V1.0 to V5.0	A	**6ED1 058-0CA01-0YE0**		1	1 unit	200	0.098
LOGO! PC cables for transferring programs between LOGO! and PC	A	**6ED1 057-1AA00-0BA0**		1	1 unit	200	0.159

* You can order this quantity or a multiple thereof.

Overview

- Expansion modules for connection to LOGO! Modular
- With digital inputs and outputs, analog inputs or analog outputs

Selection and ordering data

Version	DT	Screw terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
LOGO! DM8 24 Supply voltage 24 V DC, 4 digital inputs 24 V DC, 4 digital outputs 24 V DC, 0.3 A	A	**6ED1 055-1CB00-0BA0**		1	1 unit	200	0.122
LOGO! DM16 24 Supply voltage 24 V DC, 8 digital inputs 24 V DC, 8 digital outputs 24 V DC, 0.3 A	A	**6ED1 055-1CB10-0BA0**		1	1 unit	200	0.122
LOGO! DM8 12/24R Supply voltage 12/24 V DC, 4 digital inputs 12/24 V DC, 4 relay outputs 5 A	A	**6ED1 055-1MB00-0BA1**		1	1 unit	200	0.157
LOGO! DM8 24R Supply voltage 24 V AC/DC, 4 digital inputs 24 V AC/DC, 4 relay outputs 5 A	A	**6ED1 055-1HB00-0BA0**		1	1 unit	200	0.158
LOGO! DM16 24R Supply voltage 24 V DC, 8 digital inputs 24 V DC, 8 relay outputs 5 A	A	**6ED1 055-1NB10-0BA0**		1	1 unit	200	0.159
LOGO! DM8 230R Supply voltage 115/230 V AC/DC, 4 digital inputs 115/230 V AC/DC, 4 relay outputs 5 A	A	**6ED1 055-1FB00-0BA1**		1	1 unit	200	0.159
LOGO! DM16 230R Supply voltage 115/230 V AC/DC, 8 digital inputs 115/230 V AC/DC, 8 relay outputs 5 A	A	**6ED1 055-1FB10-0BA0**		1	1 unit	200	0.159
LOGO! AM2 Supply voltage 12/24 V DC, 2 analog inputs 0 ... 10 V or 0 ... 20 mA, 10 bit resolution	A	**6ED1 055-1MA00-0BA0**		1	1 unit	200	0.119
LOGO! AM2 PT 100 Supply voltage 12/24 V DC, 2 analog inputs for Pt100, temperature range -50 °C to 200 °C	A	**6ED1 055-1MD00-0BA0**		1	1 unit	200	0.120
LOGO! AM2 AQ Supply voltage 24 V DC, 2 analog outputs 0 to 10 V	A	**6ED1 055-1MM00-0BA0**		1	1 unit	200	0.120

*** You can order this quantity or a multiple thereof.**

LOGO! Modular expansion modules

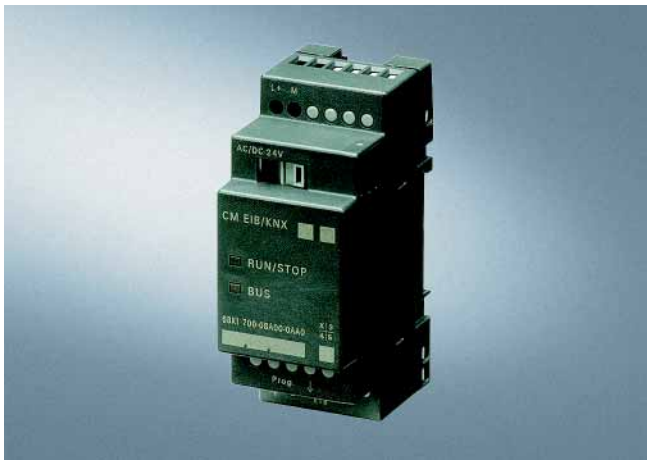
Accessories

Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
LOGO! Manuals							
• German	A	**6ED1 050-1AA00-0AE6**		1	1 unit	200	0.450
• English	A	**6ED1 050-1AA00-0BE6**		1	1 unit	200	0.401
• French	B	**6ED1 050-1AA00-0CE6**		1	1 unit	200	0.400
• Spanish	B	**6ED1 050-1AA00-0DE6**		1	1 unit	200	0.406
• Italian	B	**6ED1 050-1AA00-0EE6**		1	1 unit	200	0.402
LOGO! Memory Cards for copying, with know-how protection	A	**6ED1 056-5CA00-0BA0**		1	1 unit	200	0.004
LOGO! Soft Comfort V5.0 for programming on the PC in LAD/FBD; executes under Windows 98 SE and higher, Linux, MAC OSX; on CD-ROM	A	**6ED1 058-0BA01-0YA0**		1	1 unit	200	0.101
LOGO! Soft Comfort Upgrade from V1.0 to V5.0	A	**6ED1 058-0CA01-0YE0**		1	1 unit	200	0.098
LOGO! PC cables for transferring programs between LOGO! and PC	A	**6ED1 057-1AA00-0BA0**		1	1 unit	200	0.159
LOGO! News Box, 12/24 V contains LOGO! 12/24RC, LOGO! PC cable, LOGO! Soft Comfort, Tips&Tricks manual, screw driver, information material							
• German	A	**6ED1 057-3BA00-0AA4**		1	1 unit	2Z0	2.200
• English	A	**6ED1 057-3BA00-0BA4**		1	1 unit	2Z0	2.200
LOGO! News Box, 230 V contains LOGO! 230RC, LOGO! PC cable, LOGO! Soft Comfort, Tips&Tricks manual, screw driver, information material							
• German	A	**6ED1 057-3AA01-0AA0**		1	1 unit	2Z0	2.200
• English	A	**6ED1 057-3AA01-0BA0**		1	1 unit	2Z0	2.340

* You can order this quantity or a multiple thereof.

LOGO! CM EIB/KNX communications modules

Overview



- Expansion module for the LOGO! basic variants
- For communication between the LOGO! master and external *EIB* components via *EIB*.

Application

The CM EIB/KNX communications module allows communication between the LOGO! master and external *EIB* components via *EIB*. The module can be used to integrate LOGO! into an *EIB* system.

Selection and ordering data

Version	DT	Screw terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
LOGO! CM EIB KNX communications modules for connection to *EIB*, supply voltage 24 V DC	B	**6BK1 700-0BA00-0AA1**		1	1 unit	475	0.107

Accessories

Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
LOGO! Manuals							
• German	A	**6ED1 050-1AA00-0AE6**		1	1 unit	200	0.450
• English	A	**6ED1 050-1AA00-0BE6**		1	1 unit	200	0.401
• French	B	**6ED1 050-1AA00-0CE6**		1	1 unit	200	0.400
• Spanish	B	**6ED1 050-1AA00-0DE6**		1	1 unit	200	0.406
• Italian	B	**6ED1 050-1AA00-0EE6**		1	1 unit	200	0.402

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*** You can order this quantity or a multiple thereof.**

AS-Interface connections for LOGO!

Overview

Every LOGO! can now be connected to the AS-Interface system

Using the AS-Interface connection for LOGO!, an intelligent slave can be integrated in the AS-Interface system. With the modular interface it becomes possible to integrate the different basic units in the system according to their functionality. Similarly, functionalities can be quickly and easily adapted to new requirements by exchanging the basic unit.

The interface module provides four inputs and four outputs on the system. These I/Os do not actually exist in hardware terms, however, but are only virtually present through the interface on the bus.

Selection and ordering data

Version	DT	Screw terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
AS-Interface connections for LOGO! 4 virtual inputs, 4 virtual outputs	A	**3RK1 400-0CE10-0AA2**		1	1 unit	121	0.107

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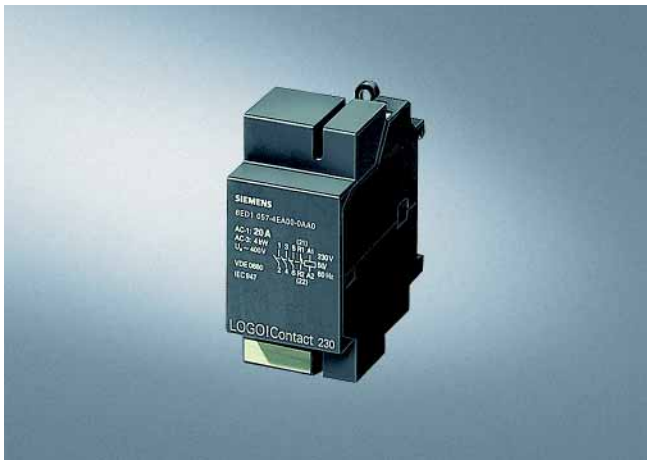
* You can order this quantity or a multiple thereof.

Overview



- Switching module for switching resistive loads and motors directly

Application

LOGO! Contact is a switching module for direct switching of resistive loads up (to 20 A) and motors (up to 4 kW).
LOGO! Contact operates hum-free without noise pollution.

LOGO! Contact is universally applicable:

- Buildings/electrical installations
- Industry and commerce

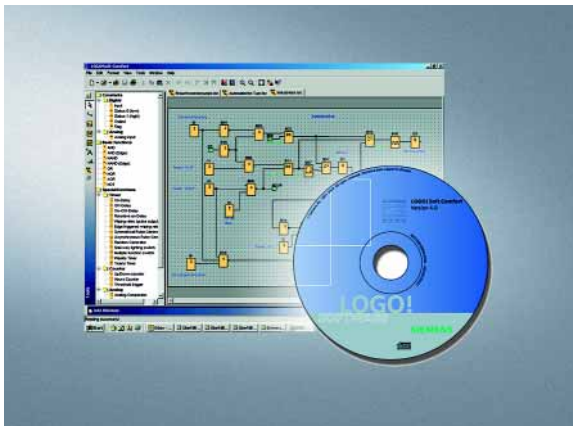
Selection and ordering data

Version	DT	Screw terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
LOGO! Contact Switching module for direct switching of resistive loads up to 20 A and motors up to 4 kW							
• Switching voltage 24 V	A	**6ED1 057-4CA00-0AA0**		1	1 unit	200	0.160
• Switching voltage 230 V	A	**6ED1 057-4EA00-0AA0**		1	1 unit	200	0.160

*** You can order this quantity or a multiple thereof.**

LOGO! Software

Overview



- The user-friendly software for switchgear program generation on the PC
- Switchgear program generation for function diagrams (FBD) or contact diagrams (LAD)
- Additional testing, simulation, online testing and archiving of the switching programs
- Professional documentation with the help of various comment and print functions

Application

LOGO! Soft Comfort is the multilingual software for switchgear program generation with LOGO! on the PC. LOGO! Soft Comfort can be used to program all devices of the LOGO! family.

Selection and ordering data

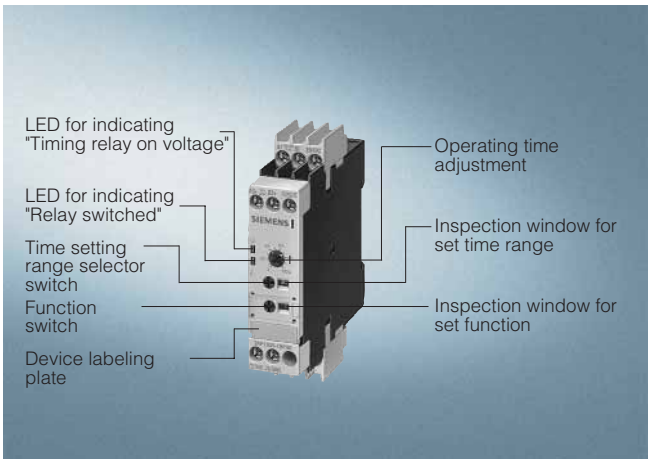
Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
							kg
LOGO! Soft Comfort V5.0 for programming on the PC in LAD/FBD; runs on Windows 98 SE and higher, Linux, MAC OSX; on CD-ROM	A	**6ED1 058-0BA01-0YA0**		1	1 unit	200	0.101
LOGO! Soft Comfort Upgrade from V1.0 to V5.0	A	**6ED1 058-0CA01-0YE0**		1	1 unit	200	0.098

7

* You can order this quantity or a multiple thereof.

3RP15 timing relays in industrial enclosure, 22.5 mm

Overview



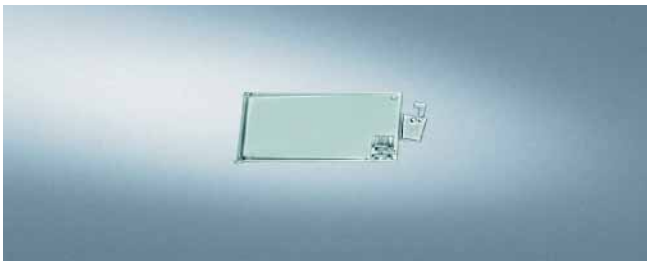
Standards

The timing relays comply with:

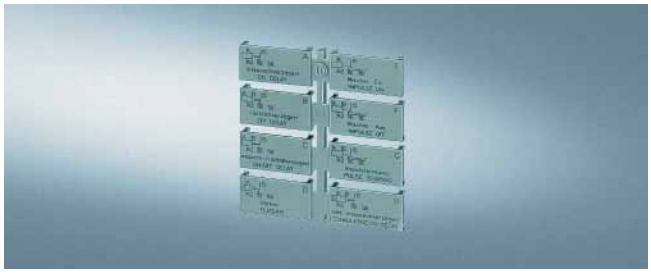
- EN 60721-3-3 "Environmental conditions"
- EN 61812-1/DIN VDE 0435 Part 2021 "Electrical relays, timing relays"
- EN 61000-6-2 and EN 61000-6-4 "Electromagnetic compatibility"
- EN 60947-5-1; (VDE 0660 Part 200) "Low-voltage switchgear and controlgear"

Accessories

Push-in lugs for screw mounting



Sealable cover



Label set for marking the multifunction relay

Application

Timing relays are used in control, starting, and protective circuits for all switching operations involving time delays. They guarantee a high level of functionality and a high repeat accuracy of timer settings.

Enclosure version

All timing relays are suitable for snap-on mounting onto TH 35 standard mounting rails according to EN 60715 or for screw fixing.

3RP15 timing relays in industrial enclosure, 22.5 mm

Selection and ordering data

Solid-state timing relays for general use in control systems and mechanical engineering with:

- 1 changeover contact or 2 changeover contacts
- Single or selectable time setting ranges
- Switch position indication by LED
- Voltage indication by LED

Version	Time setting range *t* adjustable by rotary switch to	Rated control supply voltage U_s AC 50/60 Hz V	Rated control supply voltage U_s DC V	DT	Screw terminals Order No.	Screw terminals Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
3RP15 05 timing relays, multifunction, 15 time setting ranges										
The functions can be adjusted by means of rotary switches. Insert labels can be used to adjust different functions of the 3RP15 05 timing relay clearly and unmistakably. The corresponding labels can be ordered as an accessory. The same potential must be applied to terminals A. and B.[1]										
 3RP15 05-1B...										
with LED and										
1 CO contact, 8 functions	0.05 ... 1 s	--	12	A	**3RP15 05-1AA40**		1	1 unit	101	0.125
	0.15 ... 3 s	24/100 ... 127	24	▶	**3RP15 05-1AQ30**		1	1 unit	101	0.140
	0.5 ... 10 s	24/200 ... 240	24	▶	**3RP15 05-1AP30**		1	1 unit	101	0.141
	1.5 ... 30 s	24 ... 240[3]	24 ... 240[3]	▶	**3RP15 05-1AW30**		1	1 unit	101	0.136
2 CO contacts, 16 functions	0.05 ... 1 min 5 ... 100 s 0.15 ... 3 min 0.5 ... 10 min 1.5 ... 30 min	24/100 ... 127	24	▶	**3RP15 05-1BQ30**		1	1 unit	101	0.162
		24/200 ... 240	24	▶	**3RP15 05-1BP30**		1	1 unit	101	0.161
		24 ... 240[3]	24 ... 240[3]	▶	**3RP15 05-1BW30**		1	1 unit	101	0.168
		400 ... 440	-	A	**3RP15 05-1BT20**		1	1 unit	101	0.169
2 CO contacts, positively driven and hard gold-plated. 8 functions[4][5]	0.05 ... 1 h 5 ... 100 min 0.15 ... 3 h 0.5 ... 10 h 1.5 ... 30 h 5 ... 100 h ∞[2]	24 ... 240	24 ... 240	▶	**3RP15 05-1RW30**		1	1 unit	101	0.169
3RP15 1. timing relays, ON-delay, 1 time setting range										
 3RP15 1.-1A...										
with LED and 1 CO contact	0.5 ... 10 s	24/100 ... 127	24	▶	**3RP15 11-1AQ30**		1	1 unit	101	0.108
		24/200 ... 240	24	▶	**3RP15 11-1AP30**		1	1 unit	101	0.108
	1.5 ... 30 s	24/100 ... 127	24	▶	**3RP15 12-1AQ30**		1	1 unit	101	0.107
		24/200 ... 240	24	▶	**3RP15 12-1AP30**		1	1 unit	101	0.104
	5 ... 100 s	24/100 ... 127	24	▶	**3RP15 13-1AQ30**		1	1 unit	101	0.107
		24/200 ... 240	24	▶	**3RP15 13-1AP30**		1	1 unit	101	0.108
3RP15 25 timing relays, ON-delay, 15 time setting ranges										
 3RP15 25-1A...										
with LED and										
1 CO contact	0.05 ... 1 s	24/100 ... 127	24	▶	**3RP15 25-1AQ30**		1	1 unit	101	0.109
	0.15 ... 3 s	24/200 ... 240	24	▶	**3RP15 25-1AP30**		1	1 unit	101	0.104
2 CO contacts	0.5 ... 10 s 1.5 ... 30 s 0.05 ... 1 min 5 ... 100 s 0.15 ... 3 min 0.5 ... 10 min 1.5 ... 30 min 0.05 ... 1 h 5 ... 100 min 0.15 ... 3 h 0.5 ... 10 h 1.5 ... 30 h 5 ... 100 h ∞[2]	42 ... 48/60	42 ... 48/60[6]	A	**3RP15 25-1BR30**		1	1 unit	101	0.152
		24/100 ... 127	24	▶	**3RP15 25-1BQ30**		1	1 unit	101	0.152
		24/200 ... 240[6]	24	▶	**3RP15 25-1BP30**		1	1 unit	101	0.155
		24 ... 240	24 ... 240[3]	▶	**3RP15 25-1BW30**		1	1 unit	101	0.159
3RP15 27 timing relays, ON-delay, two-wire design, 4 time setting ranges										
 3RP15 27-1E...										
1 NO contact (semiconductor)	0.05 ... 1 s 0.2 ... 4 s 1.5 ... 30 s 12 ... 240 s	24 ... 66	24...66[6]	A	**3RP15 27-1EC30**		1	1 unit	101	0.099
		90 ... 240	90...240[3]	▶	**3RP15 27-1EM30**		1	1 unit	101	0.100

1) For functions, see 3RP19 01-0. label set.

2) With switch position ∞, no timing. For test purposes (ON/OFF function) on site. Relay is constantly on when activated, or relay remains constantly off when activated. Depending on which function is set.

3) Operating range 0.7 to 1.1 x U_s.

4) Positively driven: NO and NC are never closed simultaneously; contact gap ≥ 0.5 mm is ensured, minimum make-break capacity 12 V, 3 mA.

5) The changeover contacts are actuated simultaneously, as a result of which only 8 functions are selectable (no wye-delta, no instantaneous contact).

6) Operating range 0.8 to 1.1 x U_s.

*** You can order this quantity or a multiple thereof.**

3RP15 timing relays in industrial enclosure, 22.5 mm

Solid-state timing relays for general use in control systems and mechanical engineering with:

- 1 changeover contact or 2 changeover contacts
- Single or selectable time setting ranges
- Switch position indication by LED
- Voltage indication by LED

Version	Time setting range *t* adjustable by rotary switch to	Rated control supply voltage U_s AC 50/60 Hz V	Rated control supply voltage U_s DC V	DT	Spring-loaded terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
3RP15 05 timing relays, multifunction, 15 time setting ranges										
The functions can be adjusted by means of rotary switches. Insert labels can be used to adjust different functions of the 3RP15 05 timing relay clearly and unmistakably. The corresponding labels can be ordered as an accessory. The same potential must be applied to terminals A. and B.[1]										
with LED and										
1 CO contact, 8 functions	0.05 ... 1 s	24/100 ... 127	24	C	**3RP15 05-2AQ30**		1	1 unit	101	0.125
	0.15 ... 3 s	24/200 ... 240	24	A	**3RP15 05-2AP30**		1	1 unit	101	0.126
	0.5 ... 10 s	24 ... 240[3]	24 ... 240[3]	A	**3RP15 05-2AW30**		1	1 unit	101	0.132
	1.5 ... 30 s									
2 CO contacts, 16 functions	0.05 ... 1 min	24/100 ... 127	24	A	**3RP15 05-2BQ30**		1	1 unit	101	0.142
	5 ... 100 s	24/200 ... 240	24	A	**3RP15 05-2BP30**		1	1 unit	101	0.137
	0.15 ... 3 min	24 ... 240[3]	24 ... 240[3]	A	**3RP15 05-2BW30**		1	1 unit	101	0.143
2 CO contacts, positively driven and hard gold-plated. 8 functions[4][5]	0.5 ... 10 min	24 ... 240	24 ... 240	A	**3RP15 05-2RW30**		1	1 unit	101	0.143
	1.5 ... 30 min									
	0.05 ... 1 h									
	5 ... 100 min									
	0.15 ... 3 h									
	0.5 ... 10 h									
	1.5 ... 30 h									
	5 ... 100 h									
	∞[2]									
3RP15 1. timing relays, ON-delay, 1 time setting range										
with LED and 1 CO contact	0.5 ... 10 s	24/100 ... 127	24	C	**3RP15 11-2AQ30**		1	1 unit	101	0.092
		24/200 ... 240	24	A	**3RP15 11-2AP30**		1	1 unit	101	0.092
	1.5 ... 30 s	24/100 ... 127	24	C	**3RP15 12-2AQ30**		1	1 unit	101	0.092
		24/200 ... 240	24	A	**3RP15 12-2AP30**		1	1 unit	101	0.097
	5 ... 100 s	24/100 ... 127	24	C	**3RP15 13-2AQ30**		1	1 unit	101	0.094
		24/200 ... 240	24	C	**3RP15 13-2AP30**		1	1 unit	101	0.094
3RP15 25 timing relays, ON-delay, 15 time setting ranges										
with LED and										
1 CO contact	0.05 ... 1 s	24/100 ... 127	24	C	**3RP15 25-2AQ30**		1	1 unit	101	0.095
	0.15 ... 3 s	24/200 ... 240	24	A	**3RP15 25-2AP30**		1	1 unit	101	0.093
2 CO contacts	0.5 ... 10 s	24/100 ... 127	24	C	**3RP15 25-2BQ30**		1	1 unit	101	0.128
	1.5 ... 30 s	24/200 ... 240	24	A	**3RP15 25-2BP30**		1	1 unit	101	0.127
	0.05 ... 1 min	24 ... 240[6]	24 ... 240[3]	A	**3RP15 25-2BW30**		1	1 unit	101	0.134
	5 ... 100 s									
	0.15 ... 3 min									
	0.5 ... 10 min									
	1.5 ... 30 min									
	0.05 ... 1 h									
	5 ... 100 min									
	0.15 ... 3 h									
	0.5 ... 10 h									
	1.5 ... 30 h									
	5 ... 100 h									
	∞[2]									
3RP15 27 timing relays, ON-delay, two-wire design, 4 time setting ranges										
1 NO contact (semiconductor)	0.05 ... 1 s	24 ... 66	24...66[6]	C	**3RP15 27-2EC30**		1	1 unit	101	0.090
	0.2 ... 4 s	90 ... 240	90...240[3]	C	**3RP15 27-2EM30**		1	1 unit	101	0.090
	1.5 ... 30 s									
	12 ... 240 s									

1) For functions, see 3RP19 01-0. label set.

2) With switch position ∞, no timing. For test purposes (ON/OFF function) on site. Relay is constantly on when activated, or relay remains constantly off when activated. Depending on which function is set.

3) Operating range 0.7 to 1.1 x U_s.

4) Positively driven: NO and NC are never closed simultaneously; contact gap ≥ 0.5 mm is ensured, minimum make-break capacity 12 V, 3 mA.

5) The changeover contacts are actuated simultaneously, as a result of which only 8 functions are selectable (no wye-delta, no instantaneous contact).

6) Operating range 0.8 to 1.1 x U_s.

*** You can order this quantity or a multiple thereof.**

3RP15 timing relays in industrial enclosure, 22.5 mm

Solid-state timing relays for general use in control systems and mechanical engineering with

- 1 changeover contact or 2 changeover contacts
- Single or selectable time setting ranges
- Switch position indication by LED
- Voltage indication by LED

Version	Time setting range *t* adjustable by rotary switch to	Rated control supply voltage U_s AC 50/60 Hz V	Rated control supply voltage U_s DC V	DT	Screw terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
3RP15 3. timing relays, OFF-delay, with auxiliary voltage, 1 time setting range										
 3RP15 3.-1A...										
with LED and 1 CO contact The same potential must be applied to terminals A and B	0.5 ... 10 s	24/100 ... 127	24	A	**3RP15 31-1AQ30**		1	1 unit	101	0.140
		24/200 ... 240	24	▶	**3RP15 31-1AP30**		1	1 unit	101	0.140
	1.5 ... 30 s	24/100 ... 127	24	A	**3RP15 32-1AQ30**		1	1 unit	101	0.138
		24/200 ... 240	24	▶	**3RP15 32-1AP30**		1	1 unit	101	0.139
	5 ... 100 s	24/100 ... 127	24	A	**3RP15 33-1AQ30**		1	1 unit	101	0.139
		24/200 ... 240	24	▶	**3RP15 33-1AP30**		1	1 unit	101	0.140
3RP15 40 timing relays, OFF-delay, without auxiliary voltage, 7 time setting ranges[1]										
 3RP15 40-1A...										
with LED and 1 CO contact	0.05 ... 1 s 0.15 ... 3 s 0.3 ... 6 s	24 100 ... 127 200 ... 240	24[2] 100...127[3] 200...240[3]	▶ ▶ ▶	**3RP15 40-1AB30** **3RP15 40-1AJ30** **3RP15 40-1AN30**		1 1 1	1 unit 1 unit 1 unit	101 101 101	0.116 0.119 0.120
2 CO contacts	0.5 ... 10 s 1.5 ... 30 s 3 ... 60 s 5 ... 100 s	24 100 ... 127 200 ... 240	24[2] 100...127[3] 200...240[3]	▶ A ▶	**3RP15 40-1BB30** **3RP15 40-1BJ30** **3RP15 40-1BN30**		1 1 1	1 unit 1 unit 1 unit	101 101 101	0.159 0.161 0.161
3RP15 55 timing relays, clock-pulse relay, 15 time setting ranges										
 3RP15 55-1A...										
with LED and 1 CO contact	0.05 ... 1 s 0.15 ... 3 s 0.5 ... 10 s 1.5 ... 30 s 0.05 ... 1 min 5 ... 100 s 0.15 ... 3 min 0.5 ... 10 min 1.5 ... 30 min 0.05 ... 1 h 5 ... 100 min 0.15 ... 3 h 0.5 ... 10 h 1.5 ... 30 h 5 ... 100 h ∞[4]	42 ... 48/60	42...48/60[5]	A	**3RP15 55-1AR30**		1	1 unit	101	0.111
		24/100 ... 127	24	▶	**3RP15 55-1AQ30**		1	1 unit	101	0.111
		24/200 ... 240	24	▶	**3RP15 55-1AP30**		1	1 unit	101	0.111
3RP15 60 timing relays, wye-delta function, dead interval 50 ms and overtravel time, 1 time setting range										
 3RP15 60-1S...										
3 NO contacts[3] (common contact root terminal 17)	wye-delta 1 ... 20 s, overtravel time (idling) 30 ... 600 s	24/100 ... 127	24	A	**3RP15 60-1SQ30**		1	1 unit	101	0.172
		24/200 ... 240	24	▶	**3RP15 60-1SP30**		1	1 unit	101	0.175
3RP15 7. timing relays, wye-delta function[6], dead interval 50 ms, 1 time setting range										
 3RP15 7.-1N...										
1 NO contact instantaneous and 1 NO contact delayed (common contact root terminal 17)	1 ... 20 s	24/100 ... 127	24	▶	**3RP15 74-1NQ30**		1	1 unit	101	0.113
		24/200 ... 240	24	▶	**3RP15 74-1NP30**		1	1 unit	101	0.113
		200 ... 240/ 380 ...440	--	B	**3RP15 74-1NM20**		1	1 unit	101	0.113
	3 ... 60 s	24/100 ... 127	24	▶	**3RP15 76-1NQ30**		1	1 unit	101	0.112
		24/200 ... 240	24	▶	**3RP15 76-1NP30**		1	1 unit	101	0.113
		200 ... 240/ 380 ...440	--	B	**3RP15 76-1NM20**		1	1 unit	101	0.113

1) Setting of output contacts in as-supplied state not defined (bistable relay). Application of the control voltage once results in contact changeover to the correct setting.

2) Operating range 0.7 to 1.25 x U_s.

3) Operating range 0.85 to 1.1 x U_s.

4) With switch position ∞, no timing. For test purposes (ON/OFF function) on site. For dead time "infinite", the relay is always off. For pulse time "infinite", the relay is always on.

5) Operating range 0.8 to 1.1 x U_s.

6) For example circuit, see LV 1 T "Technical Information", Circuit Diagrams.

*** You can order this quantity or a multiple thereof.**

3RP15 timing relays in industrial enclosure, 22.5 mm

Solid-state timing relays for general use in control systems and mechanical engineering with

- 1 changeover contact or 2 changeover contacts
- Single or selectable time setting ranges
- Switch position indication by LED
- Voltage indication by LED

Version	Time setting range *t* adjustable by rotary switch to	Rated control supply voltage U_s AC 50/60 Hz V	Rated control supply voltage U_s DC V	DT	Spring-loaded terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
3RP15 3. timing relays, OFF-delay, with auxiliary voltage, 1 time setting range										
with LED and 1 CO contact The same potential must be applied to terminals A and B	0.5 ... 10 s	24/100 ... 127	24	C	**3RP15 31-2AQ30**		1	1 unit	101	0.124
		24/200 ... 240	24	A	**3RP15 31-2AP30**		1	1 unit	101	0.122
	1.5 ... 30 s	24/100 ... 127	24	C	**3RP15 32-2AQ30**		1	1 unit	101	0.125
		24/200 ... 240	24	C	**3RP15 32-2AP30**		1	1 unit	101	0.121
	5 ... 100 s	24/100 ... 127	24	C	**3RP15 33-2AQ30**		1	1 unit	101	0.123
		24/200 ... 240	24	C	**3RP15 33-2AP30**		1	1 unit	101	0.125
3RP15 40 timing relays, OFF-delay, without auxiliary voltage, 7 time setting ranges[1]										
with LED and										
1 CO contact	0.05 ... 1 s 0.15 ... 3 s 0.3 ... 6 s 0.5 ... 10 s 1.5 ... 30 s 3 ... 60 s 5 ... 100 s	24 100 ... 127 200 ... 240	24[2] 100...127[3] 200...240[3]	A A A	**3RP15 40-2AB30** **3RP15 40-2AJ30** **3RP15 40-2AN30**		1 1 1	1 unit 1 unit 1 unit	101 101 101	0.105 0.108 0.110
2 CO contacts		24 100 ... 127 200 ... 240	24[2] 100...127[3] 200...240[3]	A C C	**3RP15 40-2BB30** **3RP15 40-2BJ30** **3RP15 40-2BN30**		1 1 1	1 unit 1 unit 1 unit	101 101 101	0.136 0.136 0.136
3RP15 55 timing relays, clock-pulse relay, 15 time setting ranges										
with LED and 1 changeover contact	0.05 ... 1 s 0.15 ... 3 s 0.5 ... 10 s 1.5 ... 30 s 0.05 ... 1 min 5 ... 100 s 0.15 ... 3 min 0.5 ... 10 min 1.5 ... 30 min 0.05 ... 1 h 5 ... 100 min 0.15 ... 3 h 0.5 ... 10 h 1.5 ... 30 h 5 ... 100 h ∞[4]	42 ... 48/60 24/100 ... 127 24/200 ... 240	42...48/60[5] 24 24	C C A	**3RP15 55-2AR30** **3RP15 55-2AQ30** **3RP15 55-2AP30**		1 1 1	1 unit 1 unit 1 unit	101 101 101	0.102 0.100 0.104
3RP15 60 timing relays, wye-delta function, dead interval 50 ms and overtravel time, 1 time setting range										
3 NO contacts[3] (common contact root terminal 17)	wye-delta 1 ... 20 s, overtravel time (idling) 30 ... 600 s	24/200 ... 240	24	C	**3RP15 60-2SP30**		1	1 unit	101	0.152
3RP15 7. timing relays, wye-delta function[6], dead interval 50 ms, 1 time setting range										
1 NO contact instantaneous and 1 NO contact delayed (common contact root terminal 17)	1 ... 20 s	24/200 ... 240 200 ... 240/ 380 ...440	24	A B	**3RP15 74-2NP30** **3RP15 74-2NM20**		1 1	1 unit 1 unit	101 101	0.104 0.100
	3 ... 60 s	24/100 ... 127 24/200 ... 240 200 ... 240/ 380 ... 440	24 24	C A B	**3RP15 76-2NQ30** **3RP15 76-2NP30** **3RP15 76-2NM20**		1 1 1	1 unit 1 unit 1 unit	101 101 101	0.102 0.104 0.100

1) Setting of output contacts in as-supplied state not defined (bistable relay). Application of the control voltage once results in contact changeover to the correct setting.

2) Operating range 0.7 to 1.25 x U_s.

3) Operating range 0.85 to 1.1 x U_s.

4) With switch position ∞, no timing. For test purposes (ON/OFF function) on site. For dead time "infinite", the relay is always off. For pulse time "infinite", the relay is always on.

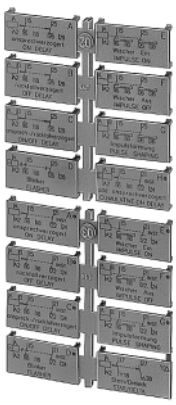
5) Operating range 0.8 to 1.1 x U_s.

6) For example circuit, see LV 1 T "Technical Information", Circuit Diagrams.

*** You can order this quantity or a multiple thereof.**

3RP15 timing relays in industrial enclosure, 22.5 mm

Accessories

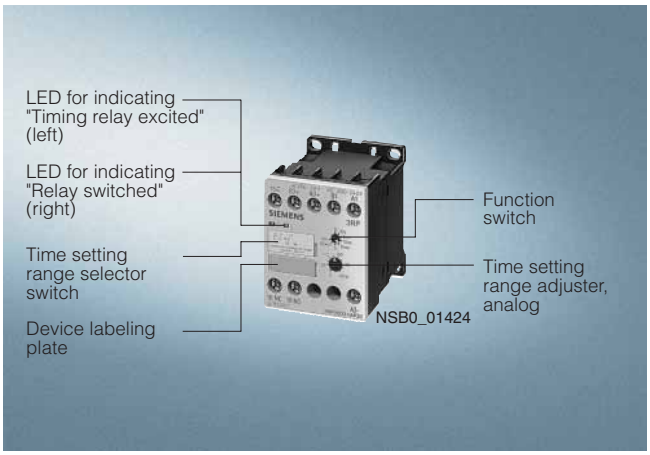
Version	Function	Identification letter	Application	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
Label sets										
Accessory for 3RP15 05 (not included in the scope of supply). The label set offers the possibility of labeling timing relays with the set function in English and German.										
 3RP19 01-0A	1 label set (1 unit) with 8 functions	With ON-delay	A	for devices with 1 CO contact and 3RP15 05-.RW30	► **3RP19 01-0A**		1	5 units	101	0.003
		OFF-delay with auxiliary voltage	B							
		ON-delay and OFF-delay with auxiliary voltage	C							
		Flashing, starting with interval	D							
		Passing make contact	E							
		Passing break contact with auxiliary voltage	F							
		Pulse-forming with auxiliary voltage	G							
		Additive ON-delay with auxiliary voltage	H							
 3RP19 01-0B	1 label set (1 unit) with 16 functions	ON-delay	A	for devices with 2 CO contacts	► **3RP19 01-0B**		1	5 units	101	0.006
		OFF-delay with auxiliary voltage	B							
		ON-delay and OFF-delay with auxiliary voltage	C							
		Flashing, starting with interval	D							
		Passing make contact	E							
		Passing break contact with auxiliary voltage	F							
		Pulse-forming with auxiliary voltage	G							
		Additive ON-delay with auxiliary voltage and instantaneous contact	H•							
		ON-delay and instantaneous contact	A•							
		OFF-delay with auxiliary voltage and instantaneous contact	B•							
		ON-delay and OFF-delay with auxiliary voltage and instantaneous contact	C•							
		Flashing, starting with interval, and instantaneous contact	D•							
		Passing make contact and instantaneous contact	E•							
		Passing break contact with auxiliary voltage and instantaneous contact	F•							
		Pulse-forming with auxiliary voltage and instantaneous contact	G•							
		Wye-delta function	Y Δ							
Blank labels										
	Blank labels, 20 mm x 7 mm, pastel turquoise[1]			C	**3RT19 00-1SB20**		100	340 units	101	0.220
Covering caps and push-in lugs										
 3RP19 03	**Push-in lugs** for screw mounting, 2 units are required for each device			for devices with 1 or 2 CO contacts	► **3RP19 03**		1	10 units	101	0.002
 3RP19 02	**Sealable covers** for securing against unauthorized adjustment of setting knobs			for devices with 1 or 2 CO contacts	► **3RP19 02**		1	5 units	101	0.004

[1] Computer labeling system for individual labeling of unit labeling plates available from: murrplastik Systemtechnik GmbH.

* You can order this quantity or a multiple thereof.

3RP20 timing relays, 45 mm

Overview

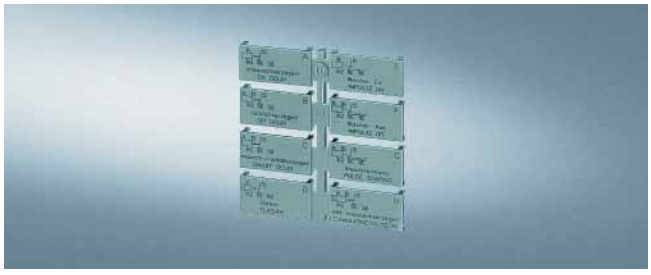


Standards

The timing relays comply with:

- EN 60721-3-3 "Environmental conditions"
- EN 61812-1/DIN VDE 0435 Part 2021 "Electrical relays, timing relays"
- EN 61000-6-2 and EN 61000-6-4 "Electromagnetic compatibility"
- EN 60947-5-1 (VDE 0660 Part 200) "Low-voltage switchgear and controlgear"
- EN 61140 "Safe electrical isolation"

Accessories



Label set for marking the multifunction relay

Application

Timing relays are used in control, starting, and protective circuits for all switching operations involving time delays. They guarantee a high level of functionality and a high repeat accuracy of timer settings.

3RP20 timing relays, 45 mm

Selection and ordering data

Multifunction

The functions can be adjusted by means of rotary switches[1]. Insert labels can be used to adjust different functions of the 3RP20 05 timing relay clearly and unmistakably.

The corresponding labels can be ordered as an accessory. The same potential must be applied to terminals A. and B.

	Version	Time setting range	Rated control supply voltage U_s AC 50/60 Hz V	Rated control supply voltage U_s DC V	DT	Screw terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
3RP20 05 timing relays, multifunction, 15 time setting ranges											
 3RP20 05-1BW30	with LED and 1 CO contact, 8 functions[1)2)]	0.05 ... 1 s 0.15 ... 3 s 0.5 ... 10 s 1.5 ... 30 s 0.05 ... 1 min 5 ... 100 s 0.15 ... 3 min 0.5 ... 10 min 1.5 ... 30 min 0.05 ... 1 h 5 ... 100 min 0.15 ... 3 h 0.5 ... 10 h 1.5 ... 30 h 5 ... 100 h ∞[3)]	24/100 ... 127 24/200 ... 240	24 24	► ►	**3RP20 05-1AQ30** **3RP20 05-1AP30**		1 1	1 unit 1 unit	101 101	0.118 0.119
	with LED and 2 CO contacts, 16 functions[1)]		24 ... 240[4)]	24 ... 240[5)]	D	**3RP20 05-1BW30**		1	1 unit	101	0.128
3RP20 25. timing relays, ON-delay, 15 time setting ranges											
 3RP20 25-1AP30	with LED and 1 CO contact[2)]	0.05 ... 1 s 0.15 ... 3 s 0.5 ... 10 s 1.5 ... 30 s 0.05 ... 1 min 5 ... 100 s 0.15 ... 3 min 0.5 ... 10 min 1.5 ... 30 min 0.05 ... 1 h 5 ... 100 min 0.15 ... 3 h 0.5 ... 10 h 1.5 ... 30 h 5 ... 100 h ∞[3)]	24/100 ... 127 24/200 ... 240	24 24	► ►	**3RP20 25-1AQ30** **3RP20 25-1AP30**		1 1	1 unit 1 unit	101 101	0.106 0.106

1) For functions, see 3RP19 01-0. label set.

2) Units with safe electrical isolation.

3) With switch position ∞, no timing. For test purposes (ON/OFF function) on site. Relay is constantly on when activated, or relay remains constantly off when activated. Depending on which function is set.

4) Operating range 0.8 ... 1.1 x U_s.

5) Operating range 0.7 ... 1.1 x U_s.

*** You can order this quantity or a multiple thereof.**

Selection and ordering data

Multifunction

The functions can be adjusted by means of rotary switches[1]. Insert labels can be used to adjust different functions of the 3RP20 05 timing relay clearly and unmistakably.

The corresponding labels can be ordered as an accessory. The same potential must be applied to terminals A. and B.

Version	Time setting range *t*	Rated control supply voltage U_s AC 50/60 Hz V	Rated control supply voltage U_s DC V	DT	Spring-loaded terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
3RP20 05 timing relays, multifunction, 15 time setting ranges										
with LED and 1 CO contact, 8 functions[1)2)]	0.05 ... 1 s 0.15 ... 3 s 0.5 ... 10 s 1.5 ... 30 s 0.05 ... 1 min 5 ... 100 s 0.15 ... 3 min 0.5 ... 10 min 1.5 ... 30 min 0.05 ... 1 h 5 ... 100 min 0.15 ... 3 h 0.5 ... 10 h 1.5 ... 30 h 5 ... 100 h ∞[3)]	24/ 100 ... 127 24/ 200 ... 240	24 24	D ▶	**3RP20 05-2AQ30** **3RP20 05-2AP30**		1 1	1 unit 1 unit	101 101	0.120 0.121
with LED and 2 CO contacts, 16 functions[1)]		24 ... 240[4)]	24 ... 240[5)]	A	**3RP20 05-2BW30**		1	1 unit	101	0.131
3RP20 25. timing relays, ON-delay, 15 time setting ranges										
with LED and 1 CO contact[2)]	0.05 ... 1 s 0.15 ... 3 s 0.5 ... 10 s 1.5 ... 30 s 0.05 ... 1 min 5 ... 100 s 0.15 ... 3 min 0.5 ... 10 min 1.5 ... 30 min 0.05 ... 1 h 5 ... 100 min 0.15 ... 3 h 0.5 ... 10 h 1.5 ... 30 h 5 ... 100 h ∞[3)]	24/ 100 ... 127 24/ 200 ... 240	24 24	D A	**3RP20 25-2AQ30** **3RP20 25-2AP30**		1 1	1 unit 1 unit	101 101	0.110 0.108

1) For functions, see 3RP19 01-0. label set.

2) Units with safe electrical isolation.

3) With switch position ∞, no timing. For test purposes (ON/OFF function) on site. Relay is constantly on when activated, or relay remains constantly off when activated. Depending on which function is set.

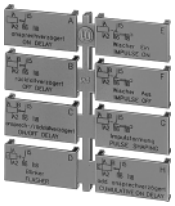
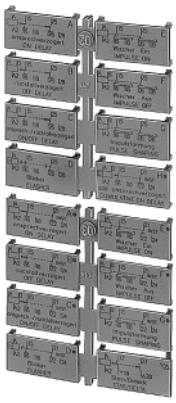
4) Operating range 0.8 to 1.1 x U_s.

5) Operating range 0.7 to 1.1 x U_s.

*** You can order this quantity or a multiple thereof.**

3RP20 timing relays, 45 mm

Accessories

	Version	Function	Identification letter	Application	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
Label sets											
	Accessory for 3RP20 05 (not included in the scope of supply). The label set offers the possibility of labeling timing relays with the set function in English and German.										
 3RP19 01-0A	1 label set (1 unit) with 8 functions	With ON-delay	A	for devices with 1 CO contact and 3RP15 05-.RW30	▶	**3RP19 01-0A**		1	5 units	101	0.003
		OFF-delay with auxiliary voltage	B								
		ON-delay and OFF-delay with auxiliary voltage	C								
		Flashing, starting with interval	D								
		Passing make contact	E								
		Passing break contact with auxiliary voltage	F								
		Pulse-forming with auxiliary voltage	G								
		Additive ON-delay with auxiliary voltage	H								
 3RP19 01-0B	1 label set (1 unit) with 16 functions	With ON-delay	A	for devices with 2 CO contacts	▶	**3RP19 01-0B**		1	5 units	101	0.006
		OFF-delay with auxiliary voltage	B								
		ON-delay and OFF-delay with auxiliary voltage	C								
		Flashing, starting with interval	D								
		Passing make contact	E								
		Passing break contact with auxiliary voltage	F								
		Pulse-forming with auxiliary voltage	G								
		Additive ON-delay with auxiliary voltage and instantaneous contact	H•								
		ON-delay and instantaneous contact	A•								
		OFF-delay with auxiliary voltage and instantaneous contact	B•								
		ON-delay and OFF-delay with auxiliary voltage and instantaneous contact	C•								
		Flashing, starting with interval, and instantaneous contact	D•								
		Passing make contact and instantaneous contact	E•								
		Passing break contact with auxiliary voltage and instantaneous contact	F•								
		Pulse-forming with auxiliary voltage and instantaneous contact	G•								
		Wye-delta function	Y∆								
Blank labels											
	Blank labels, 20 mm x 7 mm, pastel turquoise[1)]				C	**3RT19 00-1SB20**		100	340 units	101	0.220

1) Computer labeling system for individual labeling of unit labeling plates available from: murrplastik Systemtechnik GmbH.

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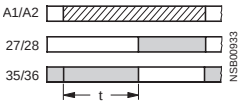
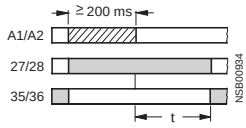
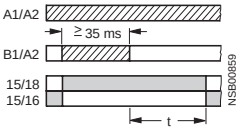
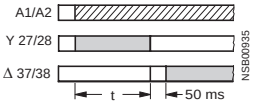
* You can order this quantity or a multiple thereof.

Selection and ordering data

For contactors	Auxiliary contacts Function ▨ Timing relay energized ▩ Timing relay closed □ Contact open	Rated control supply voltage U_s	Time setting range t	DT	Screw terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Type		V	s							kg
For size S00[1], with screw terminal										
	Terminal designations according to EN 46199 Part 5									
 3RT19 16-2...	• ON-delay (varistor integrated)									
3RT10 1, 3RH11	1 NO + 1 NC	24 AC/DC	0.05 ... 1	▶	**3RT19 16-2EJ11**		1	1 unit	101	0.085
			0.5 ... 10	▶	**3RT19 16-2EJ21**		1	1 unit	101	0.084
			5 ... 100	B	**3RT19 16-2EJ31**		1	1 unit	101	0.086
		100 ... 127 AC	0.05 ... 1	C	**3RT19 16-2EC11**		1	1 unit	101	0.087
			0.5 ... 10	▶	**3RT19 16-2EC21**		1	1 unit	101	0.087
			5 ... 100	▶	**3RT19 16-2EC31**		1	1 unit	101	0.086
		200 ... 240 AC	0.05 ... 1	D	**3RT19 16-2ED11**		1	1 unit	101	0.088
			0.5 ... 10	▶	**3RT19 16-2ED21**		1	1 unit	101	0.089
			5 ... 100	▶	**3RT19 16-2ED31**		1	1 unit	101	0.090
	• OFF-delay without auxiliary voltage (varistor integrated)[2]									
	1 NO + 1 NC	24 AC/DC	0.05 ... 1	▶	**3RT19 16-2FJ11**		1	1 unit	101	0.087
			0.5 ... 10	▶	**3RT19 16-2FJ21**		1	1 unit	101	0.088
			5 ... 100	▶	**3RT19 16-2FJ31**		1	1 unit	101	0.089
		100 ... 127 AC	0.05 ... 1	D	**3RT19 16-2FK11**		1	1 unit	101	0.086
			0.5 ... 10	▶	**3RT19 16-2FK21**		1	1 unit	101	0.087
			5 ... 100	B	**3RT19 16-2FK31**		1	1 unit	101	0.088
		200 ... 240 AC	0.05 ... 1	D	**3RT19 16-2FL11**		1	1 unit	101	0.089
			0.5 ... 10	▶	**3RT19 16-2FL21**		1	1 unit	101	0.089
			5 ... 100	▶	**3RT19 16-2FL31**		1	1 unit	101	0.089
	• OFF-delay with auxiliary voltage									
	1 CO contact	24 AC/DC	0.5 ... 10	B	**3RT19 16-2LJ21**		1	1 unit	101	0.083
		100 ... 127 AC		B	**3RT19 16-2LC21**		1	1 unit	101	0.085
		200 ... 240 AC		B	**3RT19 16-2LD21**		1	1 unit	101	0.085
										
	• Wye-delta function (varistor integrated)									
	1 NO, delayed + 1 NO, instantaneous, dead time 50 ms	24 AC/DC 100 ... 127 AC 200 ... 240 AC	1.5 ... 30	▶ D ▶	**3RT19 16-2GJ51** **3RT19 16-2GC51** **3RT19 16-2GD51**		1 1 1	1 unit 1 unit 1 unit	101 101 101	0.086 0.087 0.090
										

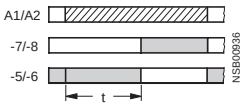
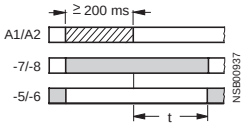
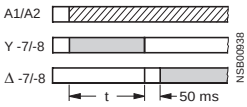
1) The terminals for the rated control supply voltage are connected to the contactor beneath by the integrated spring-type contacts of the solid-state time-delay auxiliary switch block when mounting.

2) Setting of output contacts in as-supplied state not defined (bistable relay).
Application of the control voltage once results in contact changeover to the correct setting.

* You can order this quantity or a multiple thereof.

3RT19 timing relays for mounting onto contactors

3RT19 26-2...

For contactors	Auxiliary contacts Function ▨ Timing relay energized ▩ Timing relay closed □ Contact open	Rated control supply voltage U_s	Time setting range t	DT	Screw terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Type		V	s							kg
For sizes S0 to S12[2], with screw terminal										
	• ON-delay									
3RT10 2, 3RT10 3, 3RT10 4	1 NO + 1 NC	24 AC/DC	0.05 ... 1	D	**3RT19 26-2EJ11**		1	1 unit	101	0.081
			0.5 ... 10	▶	**3RT19 26-2EJ21**		1	1 unit	101	0.081
			5 ... 100	A	**3RT19 26-2EJ31**		1	1 unit	101	0.082
		100 ... 127 AC	0.05 ... 1	C	**3RT19 26-2EC11**		1	1 unit	101	0.083
			0.5 ... 10	▶	**3RT19 26-2EC21**		1	1 unit	101	0.083
			5 ... 100	D	**3RT19 26-2EC31**		1	1 unit	101	0.083
		200 ... 240 AC	0.05 ... 1	D	**3RT19 26-2ED11**		1	1 unit	101	0.085
			0.5 ... 10	▶	**3RT19 26-2ED21**		1	1 unit	101	0.085
			5 ... 100	B	**3RT19 26-2ED31**		1	1 unit	101	0.085
	• OFF-delay without auxiliary voltage[1]									
	1 NO + 1 NC	24 AC/DC	0.05 ... 1	▶	**3RT19 26-2FJ11**		1	1 unit	101	0.085
			0.5 ... 10	▶	**3RT19 26-2FJ21**		1	1 unit	101	0.084
			5 ... 100	▶	**3RT19 26-2FJ31**		1	1 unit	101	0.085
		100 ... 127 AC	0.05 ... 1	D	**3RT19 26-2FK11**		1	1 unit	101	0.087
			0.5 ... 10	▶	**3RT19 26-2FK21**		1	1 unit	101	0.086
			5 ... 100	C	**3RT19 26-2FK31**		1	1 unit	101	0.087
		200 ... 240 AC	0.05 ... 1	D	**3RT19 26-2FL11**		1	1 unit	101	0.086
			0.5 ... 10	A	**3RT19 26-2FL21**		1	1 unit	101	0.084
			5 ... 100	A	**3RT19 26-2FL31**		1	1 unit	101	0.086
	• Wye-delta function									
	1 NO, delayed + 1 NO, instantaneous, dead time 50 ms	24 AC/DC 100 ... 127 AC 200 ... 240 AC	1.5 ... 30	▶	**3RT19 26-2GJ51** **3RT19 26-2GC51** **3RT19 26-2GD51**		1	1 unit	101	0.084 0.085 0.088
										

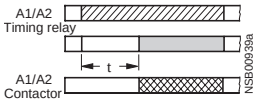
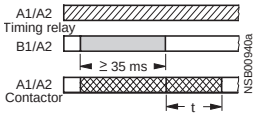
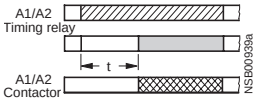
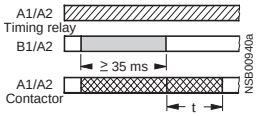
[1] Setting of output contacts in as-supplied state not defined (bistable relay). Application of the control voltage once results in contact changeover to the correct setting.

[2] The terminals A1 and A2 for the rated control supply voltage of the solid-state time-delay auxiliary switch block must be connected to the corresponding contactor by connecting cables.

7

* You can order this quantity or a multiple thereof.

3RT19 timing relays for mounting onto contactors

For contactors	Function Timing relay energized Contact closed Contact open Contactor energized	Rated control supply voltage U_s	Time setting range t	DT	Screw terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Type		V	s							kg
For size S00, with semiconductor output and screw terminal										
	For mounting onto the front of contactors The electrical connection between the time-relay block and the contactor beneath is established automatically when it is snapped on.									
 3RT19 16-2C...	• ON-delay, two-wire version (varistor integrated)									
3RT1. 1, 3RH11		24 ... 66 AC/DC	0.05 ... 1	B	**3RT19 16-2CG11**		1	1 unit	101	0.051
			0.5 ... 10	▶	**3RT19 16-2CG21**		1	1 unit	101	0.051
			5 ... 100	B	**3RT19 16-2CG31**		1	1 unit	101	0.054
		90 ... 240 AC/DC	0.05 ... 1	D	**3RT19 16-2CH11**		1	1 unit	101	0.052
			0.5 ... 10	▶	**3RT19 16-2CH21**		1	1 unit	101	0.052
			5 ... 100	▶	**3RT19 16-2CH31**		1	1 unit	101	0.051
 3RT19 16-2D...	• OFF-delay with auxiliary voltage (varistor integrated)									
		24 ... 66 AC/DC	0.05 ... 1	C	**3RT19 16-2DG11**		1	1 unit	101	0.057
			0.5 ... 10	B	**3RT19 16-2DG21**		1	1 unit	101	0.057
			5 ... 100	B	**3RT19 16-2DG31**		1	1 unit	101	0.057
		90 ... 240 AC/DC	0.05 ... 1	D	**3RT19 16-2DH11**		1	1 unit	101	0.053
			0.5 ... 10	▶	**3RT19 16-2DH21**		1	1 unit	101	0.060
			5 ... 100	B	**3RT19 16-2DH31**		1	1 unit	101	0.058
For sizes S0 to S3, with semiconductor output and screw terminal										
	For mounting onto coil terminals on top of the contactors The electrical connection between the relay block and the corresponding contactor is established by screwing the two connecting pins of the time-relay block to coil terminals A1/A2 on top of the contactor.									
 3RT19 26-2C...	• ON-delay, two-wire version (varistor integrated)									
3RT10 2, 3RT10 3, 3RT10 4[1]		24 ... 66 AC/DC	0.05 ... 1	D	**3RT19 26-2CG11**		1	1 unit	101	0.048
			0.5 ... 10	B	**3RT19 26-2CG21**		1	1 unit	101	0.049
			5 ... 100	D	**3RT19 26-2CG31**		1	1 unit	101	0.048
		90 ... 240 AC/DC	0.05 ... 1	▶	**3RT19 26-2CH11**		1	1 unit	101	0.048
			0.5 ... 10	▶	**3RT19 26-2CH21**		1	1 unit	101	0.047
			5 ... 100	▶	**3RT19 26-2CH31**		1	1 unit	101	0.048
 3RT19 26-2D...	• OFF-delay with auxiliary voltage (varistor integrated)									
		24 ... 66 AC/DC	0.05 ... 1	D	**3RT19 26-2DG11**		1	1 unit	101	0.050
			0.5 ... 10	D	**3RT19 26-2DG21**		1	1 unit	101	0.051
			5 ... 100	D	**3RT19 26-2DG31**		1	1 unit	101	0.051
		90 ... 240 AC/DC	0.05 ... 1	C	**3RT19 26-2DH11**		1	1 unit	101	0.050
			0.5 ... 10	D	**3RT19 26-2DH21**		1	1 unit	101	0.050
			5 ... 100	C	**3RT19 26-2DH31**		1	1 unit	101	0.050

[1] Not for 3RT10 4 contactor with 24 to 42 V rated control supply voltage.

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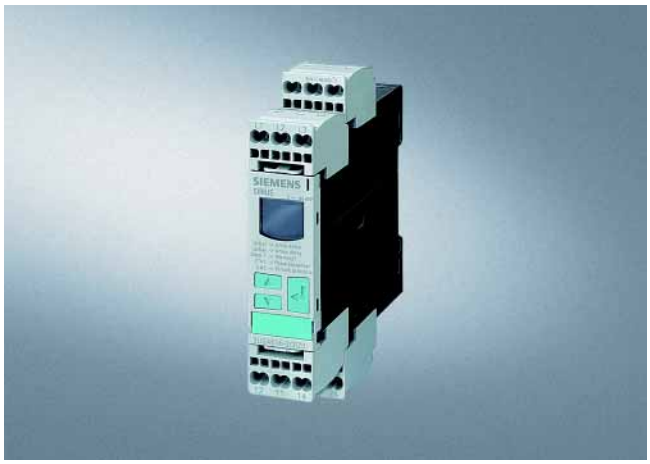
*** You can order this quantity or a multiple thereof.**

3UG Monitoring Relays for Electrical and Additional Measurements

Line monitoring

Overview



Solid-state line monitoring relays provide maximum protection for mobile machines and plants or for unstable networks. Network and voltage faults can be detected early and rectified before far greater damage ensues.

Depending on the version, the relays monitor phase sequence, phase failure with and without N conductor monitoring, phase unbalance, undervoltage or overvoltage. The rms value of the voltage is measured. With the 3UG46 17 or 3UG46 18 relay, a wrong direction of rotation can also be corrected automatically.

Benefits

- Can be used without auxiliary voltage in any network from 160 to 690 V AC worldwide thanks to wide voltage range
- Variably adjustable to overvoltage, undervoltage or window monitoring
- Freely configurable delay times and reset response
- Width 22.5 mm
- Permanent display of ACTUAL value and network fault type on the digital variants
- Automatic correction of the direction of rotation by distinguishing between network faults and wrong phase sequence
- All versions with removable terminals
- All versions with screw terminal or alternatively with innovative spring-loaded terminal

Application

The relays are used above all for mobile equipment, e.g. air conditioning compressors, refrigerating containers, building site compressors and cranes.

Function	Application
Phase sequence	• Direction of rotation of the operating mechanism
Phase failure	• A fuse has tripped • Failure of the control supply voltage • Broken cable
Phase unbalance	• Overheating of the motor due to asymmetrical voltage • Detection of asymmetrically loaded networks
Undervoltage	• Increased current on a motor with corresponding overheating • Unintentional resetting of a device • Network collapse, particularly with battery power
Overvoltage	• Protection of a plant against destruction due to overvoltage

Selection and ordering data



Hysteresis	Under-voltage detec-tion	Over-voltage detec-tion	ON-delay	Tripping delay	Version of auxiliary contacts	Rated control supply voltage U_s	DT	Screw terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
			s	s	CO contact	V							kg
Monitoring of phase sequence													
Auto-RESET													
--	No	No	--	--	1	160 … 260 AC	A	**3UG45 11-1AN20**		1	1 unit	101	0.147
					2		A	**3UG45 11-1BN20**		1	1 unit	101	0.147
					1	320 … 500 AC	A	**3UG45 11-1AP20**		1	1 unit	101	0.147
					2		A	**3UG45 11-1BP20**		1	1 unit	101	0.147
					1	420 … 690 AC	A	**3UG45 11-1AQ20**		1	1 unit	101	0.147
					2		A	**3UG45 11-1BQ20**		1	1 unit	101	0.147
Monitoring of phase sequence, phase failure and phase unbalance													
Auto-RESET, closed-circuit principle, unbalance threshold 10 %													
--	No	No	--	--	1	160 … 690 AC	A	**3UG45 12-1AR20**		1	1 unit	101	0.147
					2		A	**3UG45 12-1BR20**		1	1 unit	101	0.147
Monitoring of phase sequence, phase failure, unbalance and undervoltage													
Analogically adjustable, Auto-RESET, closed-circuit principle, fixed unbalance threshold 20 %													
5 % of set value	Yes	No	--	0.1 … 20	2	160 … 690 AC	A	**3UG45 13-1BR20**		1	1 unit	101	0.147
Digitally adjustable, Auto or manual RESET, open-circuit or closed-circuit principle, unbalance threshold 5 ... 20 %													
Adjustable 1 ... 20 V	Yes	No	0.1 ... 20	0.1 … 20	2	160 … 690 AC	A	**3UG46 14-1BR20**		1	1 unit	101	0.147
Monitoring of phase sequence, phase failure, overvoltage and undervoltage													
Digitally adjustable, Auto-RESET or manual RESET, open-circuit or closed-circuit principle													
Adjustable 1 ... 20 V	Yes	Yes	--	0.1 … 20[1]	2[1]	160 … 690 AC	A	**3UG46 15-1CR20**		1	1 unit	101	0.147
Monitoring of phase sequence, phase and neutral conductor failure, overvoltage and undervoltage													
Digitally adjustable, Auto-RESET or manual RESET, open-circuit or closed-circuit principle													
Adjustable 1 ... 20 V	Yes	Yes	--	0.1 … 20[1]	2[1]	160 … 690 AC	A	**3UG46 16-1CR20**		1	1 unit	101	0.147
Automatic correction of the direction of rotation in case of wrong phase sequence, phase failure, phase unbalance, overvoltage and undervoltage													
Digitally adjustable, Auto or manual RESET, open-circuit or closed-circuit principle, unbalance threshold 5...20 %													
Adjustable 1 ... 20 V	Yes	Yes	--	0.1 … 20	2[2]	160 … 690 AC	A	**3UG46 17-1CR20**		1	1 unit	101	0.147
Automatic correction of the direction of rotation in case of wrong phase sequence, phase and N conductor failure, phase unbalance, overvoltage and undervoltage													
Digitally adjustable, Auto or manual RESET, open-circuit or closed-circuit principle, unbalance threshold 5...20 %													
Adjustable 1 ... 20 V	Yes	Yes	--	0.1 … 20	2[2]	160 … 690 AC	A	**3UG46 18-1CR20**		1	1 unit	101	0.147

[1] 1 CO contact each and 1 tripping delay time each for U_{min} and U_{max}.

[2] 1 CO contact each for network fault and for phase sequence correction.

*** You can order this quantity or a multiple thereof.**

3UG Monitoring Relays for Electrical and Additional Measurements

Line monitoring



Hysteresis	Under-voltage detec-tion	Over-voltage detec-tion	ON-delay	Tripping delay	Version of auxiliary contacts	Rated control supply voltage U_s	DT	Spring-loaded terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
			s	s	CO contact	V							kg
Monitoring of phase sequence													
Auto-RESET													
--	No	No	--	--	1	160 … 260 AC	A	**3UG45 11-2AN20**		1	1 unit	101	0.147
					2		A	**3UG45 11-2BN20**		1	1 unit	101	0.147
					1	320 … 500 AC	A	**3UG45 11-2AP20**		1	1 unit	101	0.147
					2		A	**3UG45 11-2BP20**		1	1 unit	101	0.147
					1	420 … 690 AC	A	**3UG45 11-2AQ20**		1	1 unit	101	0.147
					2		A	**3UG45 11-2BQ20**		1	1 unit	101	0.147
Monitoring of phase sequence, phase failure and phase unbalance													
Auto-RESET, closed-circuit principle, unbalance threshold 10 %													
--	No	No	--	--	1	160 … 690 AC	A	**3UG45 12-2AR20**		1	1 unit	101	0.147
					2		A	**3UG45 12-2BR20**		1	1 unit	101	0.147
Monitoring of phase sequence, phase failure, unbalance and undervoltage													
Analogically adjustable, Auto-RESET, closed-circuit principle, unbalance threshold 20 %													
5 % of set value	Yes	No	--	0.1 ... 20	2	160 … 690 AC	A	**3UG45 13-2BR20**		1	1 unit	101	0.147
Digitally adjustable, Auto or manual RESET, open-circuit or closed-circuit principle, unbalance threshold 5 ... 20 %													
Adjustable 1 ... 20 V	Yes	No	0 ... 20	0.1 ... 20	2	160 … 690 AC	A	**3UG46 14-2BR20**		1	1 unit	101	0.147
Monitoring of phase sequence, phase failure, overvoltage and undervoltage													
Digitally adjustable, Auto-RESET or manual RESET, open-circuit or closed-circuit principle													
Adjustable 1 ... 20 V	Yes	Yes	--	0.1 ... 20[1]	2[1]	160 … 690 AC	A	**3UG46 15-2CR20**		1	1 unit	101	0.140
Monitoring of phase sequence, phase and neutral conductor failure, overvoltage and undervoltage													
Digitally adjustable, Auto-RESET or manual RESET, open-circuit or closed-circuit principle													
Adjustable 1 ... 20 V	Yes	Yes	--	0.1 ... 20[1]	2[1]	160 … 690 AC	A	**3UG46 16-2CR20**		1	1 unit	101	0.147
Automatic correction of the direction of rotation in case of wrong phase sequence, phase failure, phase unbalance, overvoltage and undervoltage													
Digitally adjustable, Auto or manual RESET, open-circuit or closed-circuit principle, unbalance threshold 5...20 %													
Adjustable 1 ... 20 V	Yes	Yes	--	0.1 ... 20	2[2]	160 … 690 AC	A	**3UG46 17-2CR20**		1	1 unit	101	0.147
Automatic correction of the direction of rotation in case of wrong phase sequence, phase and N conductor failure, phase unbalance, overvoltage and undervoltage													
Digitally adjustable, Auto or manual RESET, open-circuit or closed-circuit principle, unbalance threshold 5 ... 20 %													
Adjustable 1 ... 20 V	Yes	Yes	--	0.1 ... 20	2[2]	160 … 690 AC	A	**3UG46 18-2CR20**		1	1 unit	101	0.147

[1] 1 CO contact each and 1 tripping delay time each for U_{min} and U_{max}.

[2] 1 CO contact each for network fault and for phase sequence correction.

*** You can order this quantity or a multiple thereof.**

Accessories

	Application	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
Blank labels									
		Blank labels, 20 mm x 7 mm, pastel turquoise[1]	C	**3RT19 00-1SB20**		100	340 units	101	0.220
Push-in lugs and covers									
 3RP19 03	for devices with 1 or 2 CO contacts	**Push-in lugs** for screw mounting, 2 units are required for each device	►	**3RP19 03**		1	10 units	101	0.002
 3RP19 02	for devices with 1 or 2 CO contacts	**Sealable covers** for securing against unauthorized adjustment of setting knobs	►	**3RP19 02**		1	5 units	101	0.004

[1] Computer labeling system for individual labeling of unit labeling plates available from: murrplastik Systemtechnik GmbH.

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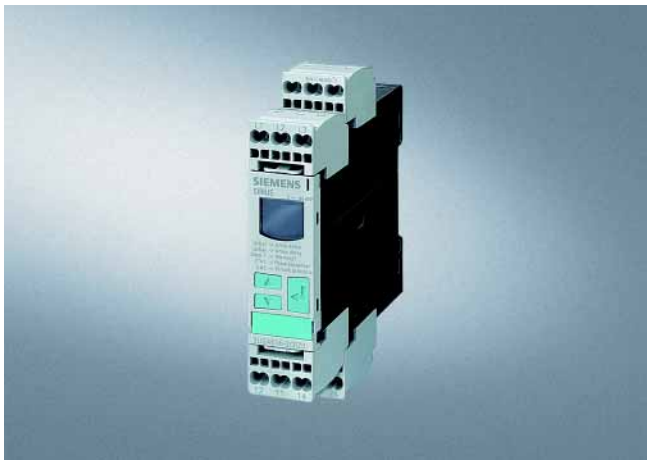
* You can order this quantity or a multiple thereof.

3UG Monitoring Relays for Electrical and Additional Measurements

Voltage monitoring

Overview



The relays monitor single-phase AC voltages (rms value) and DC voltages against the set threshold value for overshoot and undershoot. The products differ with regard to their power supply (internal or external).

Benefits

- Variants with wide voltage supply range
- Variably adjustable to overvoltage, undervoltage or window monitoring
- Freely configurable delay times and RESET response
- Width 22.5 mm
- Display of ACTUAL value and status messages
- All versions with removable terminals
- All versions with screw terminals or alternatively with innovative spring-loaded terminals

Application

- Protection of a plant against destruction due to overvoltage
- Switch-on of a plant at a defined voltage and higher
- Protection against overloaded supply voltages, particularly with battery power
- Threshold switch for 0.1 to 10 V analog signals

Selection and ordering data

Measuring range	Hysteresis	Rated control supply voltage U_s	DT	**Screw terminals** Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
V AC/DC	V AC/DC	V AC/DC							kg
Internal power supply without auxiliary voltage, ON-delay and tripping delay can be adjusted separately 0.1 ... 20 s									
Digitally adjustable, LCD display, Auto-RESET or manual RESET, open-circuit or closed-circuit principle, 1 CO contact									
17 … 275	0.1...150	17 … 275	A	**3UG46 33-1AL30**		1	1 unit	101	0.147
Supplied from an external auxiliary voltage, tripping delay adjustable 0.1 ... 20 s									
Digitally adjustable, LCD display, Auto-RESET or manual RESET, open-circuit or closed-circuit principle, 1 CO contact									
0.1 … 60	0.1...30	24	A	**3UG46 31-1AA30**		1	1 unit	101	0.147
10 … 600	0.1...300		A	**3UG46 32-1AA30**		1	1 unit	101	0.147
0.1 … 60	0.1...30	24 … 240	A	**3UG46 31-1AW30**		1	1 unit	101	0.147
10 … 600	0.1...300		A	**3UG46 32-1AW30**		1	1 unit	101	0.147

Measuring range	Hysteresis	Rated control supply voltage U_s	DT	**Spring-loaded terminals** Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
V AC/DC	V AC/DC	V AC/DC							kg
Internal power supply without auxiliary voltage, ON-delay and tripping delay can be adjusted separately 0.1 ... 20 s									
Digitally adjustable, LCD display, Auto-RESET or manual RESET, open-circuit or closed-circuit principle, 1 CO contact									
17 … 275	0.1 ... 150	17 … 275	A	**3UG46 33-2AL30**		1	1 unit	101	0.147
Supplied from an external auxiliary voltage, tripping delay adjustable 0.1 ... 20 s									
Digitally adjustable, LCD display, Auto-RESET or manual RESET, open-circuit or closed-circuit principle, 1 CO contact									
0.1 … 60	0.1 ... 30	24	A	**3UG46 31-2AA30**		1	1 unit	101	0.147
10 … 600	0.1 ... 300		A	**3UG46 32-2AA30**		1	1 unit	101	0.147
0.1 … 60	0.1 ... 30	24 … 240	A	**3UG46 31-2AW30**		1	1 unit	101	0.147
10 … 600	0.1 ... 300		A	**3UG46 32-2AW30**		1	1 unit	101	0.147

3UG46 31-2AA30

Accessories

Application	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
								kg
Blank labels								
	Blank labels, 20 mm x 7 mm, pastel turquoise[1)]	C	**3RT19 00-1SB20**		100	340 units	101	0.220
Push-in lugs and covers								
for devices with 1 or 2 CO contacts	**Push-in lugs** for screw mounting, 2 units are required for each device	►	**3RP19 03**		1	10 units	101	0.002
for devices with 1 or 2 CO contacts	**Sealable covers** for securing against unauthorized adjustment of setting knobs	►	**3RP19 02**		1	5 units	101	0.004

3RP19 03

3RP19 02

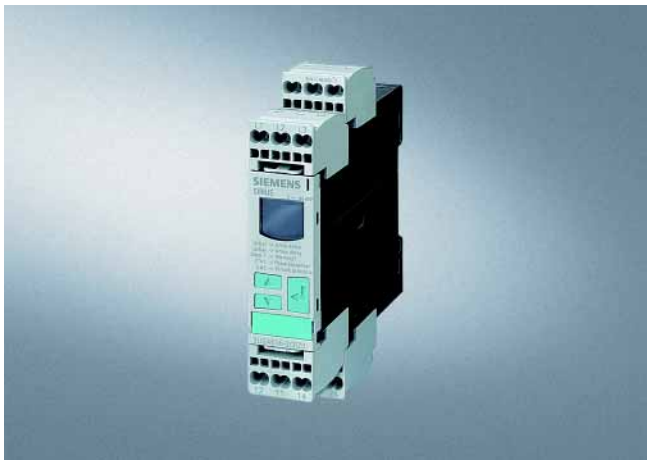
[1)] Computer labeling system for individual labeling of unit labeling plates available from: murrplastik Systemtechnik GmbH.

*** You can order this quantity or a multiple thereof.**

3UG Monitoring Relays for Electrical and Additional Measurements

Current monitoring

Overview



The relays monitor single-phase AC currents (rms value) and DC currents against the set threshold value for overshoot and undershoot. They differ with regard to their measuring ranges and supply voltage types.

Benefits

- Variants with wide voltage supply range
- Variably adjustable to overvoltage, undervoltage or window monitoring
- Freely configurable delay times and RESET response
- Width 22.5 mm
- Display of ACTUAL value and status messages
- All versions with removable terminals
- All versions with screw terminals or alternatively with innovative spring-loaded terminals

Application

- Overcurrent and undercurrent monitoring
- Monitoring the functionality of electrical loads
- Open-circuit monitoring
- Threshold switch for analog signals from 4 to 20 mA

Selection and ordering data

Measuring range	Hysteresis	Rated control supply voltage U_s	DT	Screw terminals		PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
				Order No.	Price per PU				
AC/DC	AC/DC	V AC/DC							kg
Monitoring of undercurrent and overcurrent, ON-delay and tripping delay can be adjusted separately 0.1 ... 20 s									
Digitally adjustable, LCD display, Auto-RESET or manual RESET, open-circuit or closed-circuit principle, 1 CO contact									
3 … 500 mA	0.1 ... 250 mA	24 [1]	A	**3UG46 21-1AA30**		1	1 unit	101	0.147
0.05 … 10 A	0.01 ... 5 A		A	**3UG46 22-1AA30**		1	1 unit	101	0.147
3 … 500 mA	0.1 ... 250 mA	24 … 240 [2]	A	**3UG46 21-1AW30**		1	1 unit	101	0.147
0.05 … 10 A	0.01 ... 5 A		A	**3UG46 22-1AW30**		1	1 unit	101	0.147

Measuring range	Hysteresis	Rated control supply voltage U_s	DT	Spring-loaded terminals		PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
				Order No.	Price per PU				
AC/DC	AC/DC	V AC/DC							kg
Monitoring of undercurrent and overcurrent, ON-delay and tripping delay can be adjusted separately 0.1 ... 20 s									
Digitally adjustable, LCD display, Auto-RESET or manual RESET, open-circuit or closed-circuit principle, 1 CO contact									
3 … 500 mA	0.1 ... 250 mA	24 [1]	A	**3UG46 21-2AA30**		1	1 unit	101	0.147
0.05 … 10 A	0.01 ... 5 A		A	**3UG46 22-2AA30**		1	1 unit	101	0.147
3 … 500 mA	0.1 ... 250 mA	24 … 240 [2]	A	**3UG46 21-2AW30**		1	1 unit	101	0.147
0.05 … 10 A	0.01 ... 5 A		A	**3UG46 22-2AW30**		1	1 unit	101	0.147

3UG46 21-2AA30

[1] No electrical isolation. Load supply voltage 24 V.

[2] Electrical isolation between control circuit and measuring circuit. Load supply voltage for safe isolation max. 300 V, for simple isolation max. 500 V.

Accessories

	Application	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
									kg
Blank labels									
		Blank labels, 20 mm x 7 mm, pastel turquoise [1]	C	**3RT19 00-1SB20**		100	340 units	101	0.220
Push-in lugs and covers									
 3RP19 03	for devices with 1 or 2 CO contacts	**Push-in lugs** for screw mounting, 2 units are required for each device	▶	**3RP19 03**		1	10 units	101	0.002
 3RP19 02	for devices with 1 or 2 CO contacts	**Sealable covers** for securing against unauthorized adjustment of setting knobs	▶	**3RP19 02**		1	5 units	101	0.004

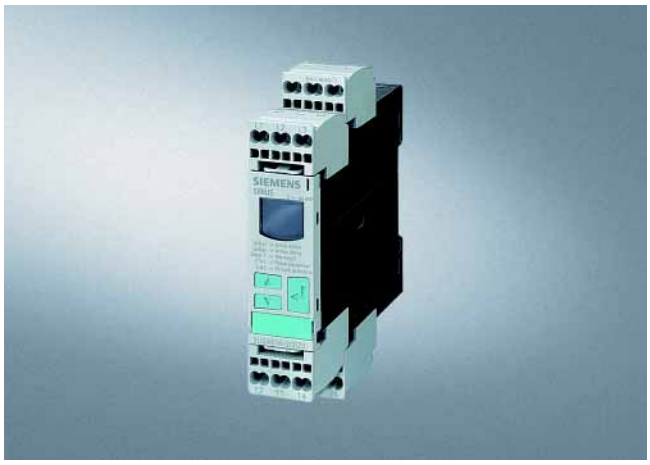
[1] Computer labeling system for individual labeling of unit labeling plates available from: murrplastik Systemtechnik GmbH.

* You can order this quantity or a multiple thereof.

Monitoring Relays for Electrical and Additional Measurements

Power factor and active current monitoring

Overview



The 3UG46 41 power factor and active current monitoring device enables the load monitoring of motors.

Whereas power factor monitoring is used above all for monitoring no-load operation, the active current monitoring option can be used to observe and evaluate the load factor over the entire torque range.

Benefits

- Can be used world-wide thanks to wide voltage range from 90 to 690 V
- Monitoring of even small single-phase motors with a no-load supply current below 0.5 A
- Simple determination of threshold values throught the direct collection of measured variables on motor loading
- Window monitoring and active current measurement enable detection of cable breaks between control cabinets and motors, as well as phase failures
- Power factor or active current can be selected as measurement principle

Application

- No-load monitoring and load shedding, such as in the event of a V-belt tear
- Underload monitoring in the low performance range, e.g. in the event of pump no-load operation
- Monitoring of overload, e.g. due to a dirty filter system
- Simple power factor monitoring in networks for control of compensation equipment
- Broken cable between control cabinet and motor

Selection and ordering data

Relay for monitoring the power factor and the active current, overshoot, undershoot or window monitoring, single and three-phase, overall width 22.5 mm

Digitally adjustable, with LCD display

- Upper and lower threshold value can be adjusted separately
- 1 changeover contact each for undershoot/overshoot
- Permanent display of actual value and release status

Measuring range		Hysteresis		ON-delay	OFF-delay	Rated control supply voltage U_s	DT	**Screw terminals**		PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
for power factor	for active current	for power factor	for active current			AC 50/60 Hz		Order No.	Price per PU				
P.f.	A	P.f.	A	s	s	V							kg
0.10 ... 0.99	0.2 ... 10.0	0.1	0.1 ... 2.0	0 ... 99	0.1 ... 20.0	90 ... 690	A	**3UG46 41-1CS20**		1	1 unit	101	0.147

Measuring range		Hysteresis		ON-delay	OFF-delay	Rated control supply voltage U_s	DT	**Spring-loaded terminals**		PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
for power factor	for active current	for power factor	for active current			AC 50/60 Hz		Order No.	Price per PU				
P.f.	A	P.f.	A	s	s	V							kg
0.10 ... 0.99	0.2 ... 10.0	0.1	0.1 ... 2.0	0 ... 99	0.1 ... 20.0	90 ... 690	A	**3UG46 41-2CS20**		1	1 unit	101	0.147

Accessories

	Application	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
									kg
Blank labels									
		Blank labels, 20 mm x 7 mm, pastel turquoise[1]	C	**3RT19 00-1SB20**		100	340 units	101	0.220
Push-in lugs and covers									
 3RP19 03	for devices with 1 or 2 CO contacts	**Push-in lugs** for screw mounting, 2 units are required for each device	►	**3RP19 03**		1	10 units	101	0.002
 3RP19 02	for devices with 1 or 2 CO contacts	**Sealable covers** for securing against unauthorized adjustment of setting knobs	►	**3RP19 02**		1	5 units	101	0.004

1) Computer labeling system for individual labeling of unit labeling plates available from: murrplastik Systemtechnik GmbH.

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* You can order this quantity or a multiple thereof.

3UG Monitoring Relays for Electrical and Additional Measurements

Insulation monitoring for ungrounded AC networks

Overview

Relay for monitoring the insulation resistance between the ungrounded single or three-phase AC supply and a protective conductor

- Measuring principle with superimposed DC voltage
- Two selectable measuring ranges of 1 ... 110 kΩ
- Stepless setting within the measuring range
- Selectable:
  - Auto reset function with fixed hysteresis or
  - Storage of the tripping operation
- Test function with test button and terminal connections on the front
- Switching output: 1 CO contact
- Insulation fault indication with a red LED
- Supply voltage indication with a green LED
- Electro-magnetically compatible according to EN 50081 and EN 61000-6-2.

Application

The 3UG30 81 monitoring relay is suitable for insulation monitoring of AC systems with one or three phases in ungrounded networks (IT networks).

Supply voltage

The 3UG30 81-1AK20 has alternative voltage terminals. Only one supply voltage is permitted to be connected to it! Terminals A1 and A2 are used to connect 230 V AC and terminals A1 and B2 are used to connect 115 V AC.

The 3UG30 81-1AW30 has a wide-range input of 24 to 240 V AC/DC on terminals A1 and A2.

Selection and ordering data

	Measuring range U_e	Rated control supply voltage U_s	DT	Screw terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	kΩ	V							kg
Insulation monitors for ungrounded AC networks									
 3UG30 81-1AK20	1 ... 110	115 / 230 AC	A	**3UG30 81-1AK20**		1	1 unit	101	0.327
		24 ... 240 AC/DC	B	**3UG30 81-1AW30**		1	1 unit	101	0.242
Accessories									
	Sealable, transparent covers		C	**3UG32 08-1A**		1	1 unit	101	0.010

* You can order this quantity or a multiple thereof.

Overview

Relay for monitoring the insulation resistance between ungrounded purely DC networks and a protective conductor

- Measuring principle for differential current measurement
- Response value can be adjusted continuously from 10 to 110 kΩ
- Selectable
  - Auto reset function with hysteresis or
  - Storage of the tripping operation
- Front selector switch for open-circuit and closed-circuit principle for the output relay
- Test function with test buttons on the front for L+ and L- and over terminal connections
- Switching output: 1 CO contact
- Insulation fault indicator for L+ and L- through two red LEDs
- Supply voltage indication with a green LED
- Electro-magnetically compatible according to EN 50081 and EN 61000-6-2.

Application

The 3UG30 82 monitoring relay has been designed for insulation monitoring in ungrounded, purely DC networks with or without filtering.
It is mainly used to monitor ungrounded DC voltage networks as well as to monitor battery-powered systems.

Supply voltage

Due to the electrical isolation of the supply voltage and the measuring circuit, the relay can be used for DC networks in which the auxiliary voltage is either supplied externally or where the network to be monitored also serves as the power supply.

Note:

If the monitoring relay is supplied with an 230 V AC voltage, for example, the terminals A1 and L+ as well as A2 and L- must not be connected with each other!

Selection and ordering data

	Measuring range U_e	Rated control supply voltage U_s	DT	Screw terminals		PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	kΩ	V		Order No.	Price per PU				kg
Insulation monitors for ungrounded DC networks									
 3UG30 82-1AW30	10 ... 110	24 ... 240 AC/DC	B	**3UG30 82-1AW30**		1	1 unit	101	0.233
Accessories									
	Sealable, transparent covers		C	**3UG32 08-1A**		1	1 unit	101	0.010

*** You can order this quantity or a multiple thereof.**

3UG Monitoring Relays for Electrical and Additional Measurements

Level monitoring

Overview

The 3UG35 01 level monitoring relay is used together with the 2- or 3-pole sensors to monitor the levels of conductive liquids.

Application

- Single-point and two-point level monitoring
- Overflow protection
- Dry running protection
- Leak monitoring

Selection and ordering data

Standard rail mounting
Width 22.5 mm
Level monitoring relay for conductive liquids

- Inlet or outlet monitoring adjustable
- Sensitivity adjustment by potentiometer
- 1 yellow LED for indicating the relay state
- 1 green LED for indicating the applied control supply voltage
- 1 CO contact

	Version	Sensitivity AC 50/60 Hz kΩ	Rated control supply voltage U_s AC 50/60 Hz V	DT	Screw terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
 3UG35 01-1AC20	Inlet or outlet monitoring (UNDER/OVER function) with switch, adjustable	5 ... 100	24	▶	**3UG35 01-1AC20**		1	1 unit	101	0.143
			120	▶	**3UG35 01-1AG20**		1	1 unit	101	0.142
			230	▶	**3UG35 01-1AL20**		1	1 unit	101	0.139

* You can order this quantity or a multiple thereof.

Sensors for level monitoring

	Version	Assignment Cable	Assignment Electrode	Application	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
 3UG32 07-3A	**Three-pole wire electrodes** 500 mm long, with Teflon insulation (PTFE), screw-in gland width A/F 22, 3/8 inch thread, PVC connecting lead, 3 x 0.5 mm², 2 m long, max. operating temperature 90 °C, max. operating pressure 10 bar	Brown White Green	Center electrode Not assignable	The electrodes can be cut or bent to the required length before or after installation. The Teflon insulation must be removed over a length of approx. 5 mm. Applications: For 2-point liquid level control in an insulating tank. One electrode each for the min. and max. value and a common reference electrode.	▶	**3UG32 07-3A**		1	1 unit	101	0.254
 3UG32 07-2A	**Two-pole wire electrodes** 500 mm long, with Teflon insulation (PTFE), screw-in gland width A/F 22, 3/8 inch thread, PVC connecting lead, 3 x 0.5 mm², 2 m long, max. operating temperature 90 °C, max. operating pressure 10 bar	Brown White	Not assignable	For installation see 3UG32 07-3A Application: For alarm indication in the event of overflow or low level and for 2-step liquid-level control, when the conductive tank is used as the reference electrode.	▶	**3UG32 07-2A**		1	1 unit	101	0.230
 3UG32 07-2B	**Two-pole bow electrodes** with Teflon insulation (PTFE), screw-in gland width A/F 22, 3/8 inch thread, PVC connecting lead, 3 x 0.5 mm², 2 m long, max. operating temperature 90 °C, max. operating pressure 10 bar	Brown White Green	Gland Not assignable	Thanks to the small space requirements due to lateral fitting, ideal for use in small containers and pipes, as a leak monitor and level monitor or for warning of water entering an enclosure.	▶	**3UG32 07-2B**		1	1 unit	101	0.128
 3UG32 07-1B	**Single-pole bow electrodes for lateral fitting** Screw-in gland width A/F 22, 3/8 inch thread, PVC connecting lead, 3 x 0.5 mm², 2 m long, max. operating temperature 90 °C, max. operating pressure 10 bar	Brown White	Gland Electrode	As a max. value electrode for lateral fitting or for alarm indication in conductive tanks or pipes.	▶	**3UG32 07-1B**		1	1 unit	101	0.122
 3UG32 07-1C	**Single-pole bow electrodes for lateral fitting** with Teflon insulation (PTFE), screw-in gland width A/F 22, 3/8 inch thread, PVC connecting lead, 3 x 0.5 mm², 2 m long, max. operating temperature 90 °C, max. operating pressure 10 bar	Brown White	Gland Electrode	For high flow velocities or for intensively sparkling fluids.	C	**3UG32 07-1C**		1	1 unit	101	0.144

* You can order this quantity or a multiple thereof.

3UG Monitoring Relays for Electrical and Additional Measurements

Speed monitoring

Overview

The 3UG30 51 monitoring relay is used together with a sensor to monitor operating mechanisms for underspeeding.

Application

- Slip or tear of a belt drive
- Standstill monitoring (no personal safety)
- Transport monitoring for completeness

Selection and ordering data

Mounting onto standard mounting rail and screw fixing
Width 45 mm
Underspeed monitoring relay

- 4 measuring ranges adjustable on front panel
- 1 green LED for indicating the applied control supply voltage
- 1 yellow LED for indicating the relay state, flashes during the operating time T
- 1 CO contact

	Version	Measuring range	Rated control supply voltage U_s AC 50/60 Hz	DC	DT	Screw terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
		Revolutions min^{-1}	V								kg
	Measuring range with or without storage, start-up override 0.3 ... 30 s, electrical isolation AC: Yes DC: No	0.1 ... 600 (4 ranges)	24	--	▶	**3UG30 51-1AC20**		1	1 unit	101	0.273
			120	--	▶	**3UG30 51-1AG20**		1	1 unit	101	0.274
			230	--	▶	**3UG30 51-1AL20**		1	1 unit	101	0.272
			--	24[1)]	▶	**3UG30 51-1AC40**		1	1 unit	101	0.161

3UG30 51

1) The rated control supply voltage and the measuring circuit are not electrically isolated

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* You can order this quantity or a multiple thereof.

Overview

The 3RS10/3RS11 analog temperature monitoring relays can be used for measuring temperatures in solid, liquid and gas media. The temperature is sensed by the sensors in the medium, evaluated by the device and monitored for overshoot or undershoot. When the threshold values are reached, the output relay switches on or off depending on the parameterization.

Benefits

- All devices except for 24 V AC/DC feature electrical isolation
- Extremely easy operation using a rotary potentiometer
- Adjustable hysteresis
- Adjustable working principle for devices with 2 threshold values
- All versions with removable terminals
- All versions with screw terminals, many versions alternatively with innovative spring-type connections

Application

The analogically adjustable SIRIUS 3RS10/3RS11 temperature monitoring relays can be used in almost any application in which temperature overshoot or undershoot is not permitted, e.g. in the monitoring of set temperature limits and the output of alarm messages for:

- Motor and plant protection
- Control cabinet temperature monitoring
- Freeze monitoring
- Temperature limits for process variables, e.g. in the packaging industry or electroplating
- Controlling equipment and machines such as heating, climate and ventilation systems, solar collectors, heat pumps or warm water supplies
- Motor, bearing and gear oil monitoring
- Monitoring of coolants

Relays, analogically adjustable, for 1 sensor

Selection and ordering data

Analogically adjustable evaluation units with one and two threshold values

For analogically adjustable units, the threshold values and the hysteresis of 2 to 20 % are set using a rotary potentiometer. For units with 2 threshold values, the adjustable hysteresis only applies to threshold value 1. For the second threshold value, a fixed hysteresis of 5 % applies. The product range has been developed for applications where a setting accuracy of ±5 % is sufficient.

Sensor	Function	Measuring range	Rated control supply voltage U_s AC 50/60 Hz	DT	Screw terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
		°C	V							kg
Analogically adjustable, 1 threshold value, width 22.5 mm; closed-circuit principle; without memory; 1 NO + 1 NC										
 3RS10 00-1CD10										
PT100 (resistance sensor)	Overshoot	-50 … +50	24 AC/DC	B	**3RS10 00-1CD00**		1	1 unit	101	0.150
			110 / 230 AC	B	**3RS10 00-1CK00**		1	1 unit	101	0.190
		0 … +100	24 AC/DC	B	**3RS10 00-1CD10**		1	1 unit	101	0.145
			110 / 230 AC	A	**3RS10 00-1CK10**		1	1 unit	101	0.189
		0 … +200	24 AC/DC	B	**3RS10 00-1CD20**		1	1 unit	101	0.145
			110 / 230 AC	A	**3RS10 00-1CK20**		1	1 unit	101	0.186
	Under-shoot	- 50 … +50	24 AC/DC	B	**3RS10 10-1CD00**		1	1 unit	101	0.150
			110 / 230 AC	B	**3RS10 10-1CK00**		1	1 unit	101	0.186
		0 … +100	24 AC/DC	B	**3RS10 10-1CD10**		1	1 unit	101	0.150
			110 / 230 AC	B	**3RS10 10-1CK10**		1	1 unit	101	0.190
		0 … +200	24 AC/DC	B	**3RS10 10-1CD20**		1	1 unit	101	0.150
			110 / 230 AC	B	**3RS10 10-1CK20**		1	1 unit	101	0.191
Type J (thermo-element)	Overshoot	0 … +200	24 AC/DC	B	**3RS11 00-1CD20**		1	1 unit	101	0.150
			110 / 230 AC	B	**3RS11 00-1CK20**		1	1 unit	101	0.190
		0 … +600	24 AC/DC	B	**3RS11 00-1CD30**		1	1 unit	101	0.149
			110 / 230 AC	B	**3RS11 00-1CK30**		1	1 unit	101	0.190
Type K (thermo-element)	Overshoot	0 … +200	24 AC/DC	B	**3RS11 01-1CD20**		1	1 unit	101	0.150
			110 / 230 AC	B	**3RS11 01-1CK20**		1	1 unit	101	0.190
		0 … +600	24 AC/DC	B	**3RS11 01-1CD30**		1	1 unit	101	0.150
			110 / 230 AC	B	**3RS11 01-1CK30**		1	1 unit	101	0.190
		+500 … +1000	24 AC/DC	B	**3RS11 01-1CD40**		1	1 unit	101	0.150
			110 / 230 AC	B	**3RS11 01-1CK40**		1	1 unit	101	0.190
Analogically adjustable for warning and disconnection (2 threshold values), width 22.5 mm; open/closed-circuit principle switchable; without memory; 1 NO + 1 CO										
 3RS11 21-1DD40										
PT100 (resistance sensor)	Overshoot	-50 … +50	24 AC/DC	B	**3RS10 20-1DD00**		1	1 unit	101	0.166
			24 … 240 AC/DC	B	**3RS10 20-1DW00**		1	1 unit	101	0.175
		0 … +100	24 AC/DC	B	**3RS10 20-1DD10**		1	1 unit	101	0.164
			24 … 240 AC/DC	B	**3RS10 20-1DW10**		1	1 unit	101	0.175
		0 … +200	24 AC/DC	B	**3RS10 20-1DD20**		1	1 unit	101	0.166
			24 … 240 AC/DC	B	**3RS10 20-1DW20**		1	1 unit	101	0.175
	Under-shoot	-50 … +50	24 AC/DC	B	**3RS10 30-1DD00**		1	1 unit	101	0.165
			24 … 240 AC/DC	B	**3RS10 30-1DW00**		1	1 unit	101	0.174
		0 … +100	24 AC/DC	B	**3RS10 30-1DD10**		1	1 unit	101	0.166
			24 … 240 AC/DC	B	**3RS10 30-1DW10**		1	1 unit	101	0.175
		0 … +200	24 AC/DC	B	**3RS10 30-1DD20**		1	1 unit	101	0.163
			24 … 240 AC/DC	B	**3RS10 30-1DW20**		1	1 unit	101	0.173
Type J (thermo-element)	Overshoot	0 … +200	24 AC/DC	B	**3RS11 20-1DD20**		1	1 unit	101	0.165
			24 … 240 AC/DC	B	**3RS11 20-1DW20**		1	1 unit	101	0.175
		0 … +600	24 AC/DC	B	**3RS11 20-1DD30**		1	1 unit	101	0.167
			24 … 240 AC/DC	B	**3RS11 20-1DW30**		1	1 unit	101	0.175
Type K (thermo-element)	Overshoot	0 ... +200	24 … 240 AC/DC	B	**3RS11 21-1DW20**		1	1 unit	101	0.179
		0 ... +600	24 … 240 AC/DC	B	**3RS11 21-1DW30**		1	1 unit	101	0.176
		+500 … +1000	24 AC/DC	B	**3RS11 21-1DD40**		1	1 unit	101	0.167

* You can order this quantity or a multiple thereof.

Analogically adjustable evaluation units with one and two threshold values

For analogically adjustable units, the threshold values and the hysteresis of 2 to 20 % are set using a rotary potentiometer. For units with 2 threshold values, the adjustable hysteresis only applies to threshold value 1.

For the second threshold value, a fixed hysteresis of 5 % applies. The product range has been developed for applications where a setting accuracy of ±5 % is sufficient.

Sensor	Function	Measuring range	Rated control supply voltage U_s AC 50/60 Hz	DT	Spring-loaded terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
		°C	V							kg
Analogically adjustable, 1 threshold value, width 22.5 mm; closed-circuit principle; without memory; 1 NO + 1 NC										
PT100 (resistance sensor)	Overshoot	-50 … +50	24 AC/DC	B	**3RS10 00-2CD00**		1	1 unit	101	0.125
			110 / 230 AC	B	**3RS10 00-2CK00**		1	1 unit	101	0.163
		0 … +100	24 AC/DC	B	**3RS10 00-2CD10**		1	1 unit	101	0.125
			110 / 230 AC	B	**3RS10 00-2CK10**		1	1 unit	101	0.165
		0 … +200	24 AC/DC	B	**3RS10 00-2CD20**		1	1 unit	101	0.121
			110 / 230 AC	B	**3RS10 00-2CK20**		1	1 unit	101	0.165
Type J (thermoelement)	Overshoot	0 ... +200	24 AC/DC	B	**3RS11 00-2CD20**		1	1 unit	101	0.125
Analogically adjustable for warning and disconnection (2 threshold values), width 22.5 mm; open/closed-circuit principle switchable; without memory; 1 NO + 1 CO										
PT100 (resistance sensor)	Overshoot	0 ... +200	24 … 240 AC/DC	B	**3RS10 20-2DW20**		1	1 unit	101	0.153
	Undershoot	0 ... +200	24 AC/DC	B	**3RS10 30-2DD20**		1	1 unit	101	0.145
Type J (thermoelement)	Overshoot	0 ... +200	24 AC/DC	B	**3RS11 20-2DD20**		1	1 unit	101	0.140

Accessories

	Application	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
									kg
Blank labels									
		Blank labels, 20 mm x 7 mm, pastel turquoise [1]	C	**3RT19 00-1SB20**		100	340 units	101	0.220
Push-in lugs and covers									
 3RP19 03	for devices with 1 or 2 CO contacts	**Push-in lugs** for screw mounting, 2 units are required for each device	▶	**3RP19 03**		1	10 units	101	0.002
 3RP19 02	for devices with 1 or 2 CO contacts	**Sealable covers** for securing against unauthorized adjustment of setting knobs	▶	**3RP19 02**		1	5 units	101	0.004

[1] Computer labeling system for individual labeling of unit labeling plates available from: murrplastik Systemtechnik GmbH.

*** You can order this quantity or a multiple thereof.**

3RS10, 3RS11 Temperature Monitoring Relays

Relays, digitally adjustable, according to DIN 3440 for 1 sensor

Overview

The 3RS10/3RS11 temperature monitoring relays can be used for measuring temperatures in solid, liquid and gas media. The temperature is sensed by the sensor in the medium, evaluated by the device and monitored for overshoot or undershoot or for staying within an operating range (window function). The 3RS10 40, 3RS20 40, 3RS11 40 and 3RS21 40 relays comply with the requirements of DIN 3440 as temperature monitors; the 3RS10 42 and 3RS11 42 relays comply with the requirements of DIN 3440 as temperature limiters. The relays are also an excellent alternative to temperature controllers in the low-end performance range (2 or 3-point closed-loop control).

Benefits

- Very simple operation without complicated menu selections
- Certification according to DIN 3440
- 2 or 3-point closed-loop control can be configured quickly
- All versions with removable terminals
- All versions with screw terminals or alternatively with innovative spring-loaded terminals

Application

The 3RS10 40, 3RS10 42, 3RS11 40, 3RS11 42, 3RS20 40 and 3RS21 40 temperature monitoring relays can be used in almost any application in which temperature overshoot or undershoot is not permitted, e.g. in the monitoring of set temperature limits and the output of alarm messages for:

- Plant and environment protection
- Temperature limits for process variables e.g. in the packaging industry or electroplating
- Temperature limits for district heating plants
- Exhaust temperature monitoring
- Controlling equipment and machines such as heating, climate and ventilation systems, solar collectors, heat pumps or warm water supplies
- Motor, bearing and gear oil monitoring
- Monitoring of coolants

The short-circuit and open-circuit detection as well as the measuring range is limited, depending on the sensor type.

Measuring range in °C for thermoelements

Sensor type	Short-circuit	Open circuit	3RS11 40 Measuring range in °C	3RS11 42 Measuring range in °C
J	--	x	-99 ... +999	-99 ... +1200
K	--	x	-99 ... +999	-99 ... +1350
T	--	x	-99 ... +400	-99 ... +400
E	--	x	-99 ... +999	-99 ... +999
N	--	x	-99 ... +999	-99 ... +999
S	--	x	--	0 ... 1750
R	--	x	--	0 ... 1750
B	--	x	--	400 ... 1800

x Detection possible
-- Detection not possible

Measuring range in °C for resistance sensors

Sensor type	Short-circuit	Open circuit	3RS10 40/41 Measuring range in °C	3RS10 42 Measuring range in °C
PT100	x	x	–50 ... +500	–50 ... +750
PT1000	x	x	–50 ... +500	–50 ... +500
KTY 83-110	x	x	–50 ... +175	–50 ... +175
KTY 84	x	x	–40 ... +300	–40 ... +300
NTC[1])	x	--	80 ... 160	80 ... 160

x Available
-- Not available

[1]) Not for NTC B57227-K333-A1 (100 °C: 1.8 kΩ; 25 °C: 32.762 kΩ).

Selection and ordering data

Digitally adjustable evaluation units according to DIN 3440

The digitally adjustable temperature monitoring relays are very simple to operate. The three-digit LED display always shows the current temperature. A separate relay with an NO contact is included for sensor monitoring. The relay is switched off in parameterization mode.

The following parameters can be adjusted:

- Sensor type
- 2 threshold values, $\vartheta 1$, $\vartheta 2$
- 1 hysteresis; applies to both thresholds (0 ... 99 K)
- 1 delay time; applies to both thresholds (0 ... 999 s)
- Open/closed-circuit principle switchable
- Manual/remote RESET
- Function: Overshoot or undershoot or window monitoring

Wide-range voltage versions are electrically isolated.
The temperature ranges depend on the sensor type.

Sensor	Measuring range (measuring range limit depends on the sensor)	Rated control supply voltage U_s AC 50/60 Hz	DT	Screw terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
		V							kg
"Temperature monitors" according to DIN 3440, digitally adjustable, 2 threshold values, width 45 mm; 1 CO + 1 CO + 1 NO, memory function possible with external jumper, device parameters are non-volatile									
 3RS10 40-1GD50	PT100/1000; KTY83/84; NTC (resistance sensors)[1]	-50 … +500 °C	24 AC/DC	A	**3RS10 40-1GD50**		1	1 unit	101	0.317
			24 … 240 AC/DC	A	**3RS10 40-1GW50**		1	1 unit	101	0.329
		-50 … +932 °F	24 AC/DC	B	**3RS20 40-1GD50**		1	1 unit	101	0.189
			24 … 240 AC/DC	B	**3RS20 40-1GW50**		1	1 unit	101	0.186
	TYPE J, K, T, E, N (thermoelement)	-99 … +999 °C	24 AC/DC	A	**3RS11 40-1GD60**		1	1 unit	101	0.318
			24 … 240 AC/DC	B	**3RS11 40-1GW60**		1	1 unit	101	0.329
		-99 … +1830 °F	24 AC/DC	B	**3RS21 40-1GD60**		1	1 unit	101	0.317
			24 … 240 AC/DC	B	**3RS21 40-1GW60**		1	1 unit	101	0.317
"Temperature limiters" and "Temperature monitors" according to DIN 3440, digitally adjustable, 2 threshold values, width 45 mm; 1 CO + 1 CO + 1 NO, tripping state and device parameters are non-volatile									
	PT100/1000; KTY83/84; NTC (resistance sensors)[1]	-50 … +750 °C	24 AC/DC	B	**3RS10 42-1GD70**		1	1 unit	101	0.317
			24 … 240 AC/DC	B	**3RS10 42-1GW70**		1	1 unit	101	0.331
	TYPE J, K, T, E, N, R, S, B (thermoelement)	-99 … +1800 °C	24 AC/DC	B	**3RS11 42-1GD80**		1	1 unit	101	0.318
			24 … 240 AC/DC	B	**3RS11 42-1GW80**		1	1 unit	101	0.329

[1] NTC type: B57227-K333-A1 (100 °C: 1.8 kΩ; 25 °C: 32.762 kΩ).

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*** You can order this quantity or a multiple thereof.**

3RS10, 3RS11 Temperature Monitoring Relays

Relays, digitally adjustable, according to DIN 3440 for 1 sensor

Digitally adjustable evaluation units according to DIN 3440

The digitally adjustable temperature monitoring relays are very simple to operate. The three-digit LED display always shows the current temperature. A separate relay with an NO contact is included for sensor monitoring. The relay is switched off in parameterization mode.

The following parameters can be adjusted:

- Sensor type
- 2 threshold values, $\vartheta 1$, $\vartheta 2$
- 1 hysteresis; applies to both thresholds (0 ... 99 K)
- 1 delay time; applies to both thresholds (0 ... 999 s)
- Open/closed-circuit principle switchable
- Manual/remote RESET
- Function: Overshoot or undershoot or window monitoring

Wide-range voltage versions are electrically isolated.
The temperature ranges depend on the sensor type.

Sensor	Measuring range (measuring range limit depends on the sensor)	Rated control supply voltage U_s AC 50/60 Hz	DT	Spring-loaded terminals		PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
				Order No.	Price per PU				
		V							kg
"Temperature monitors" according to DIN 3440, digitally adjustable, 2 threshold values, width 45 mm; 1 CO + 1 CO + 1 NO, memory function possible with external jumper. device parameters are non-volatile									
PT100/1000; KTY83/84; NTC (resistance sensors)[1]	50 … +500 °C	24 AC/DC	B	**3RS10 40-2GD50**		1	1 unit	101	0.267
		24 … 240 AC/DC	B	**3RS10 40-2GW50**		1	1 unit	101	0.281
	-50 … +932 °F	24 AC/DC	C	**3RS20 40-2GD50**		1	1 unit	101	0.100
		24 … 240 AC/DC	C	**3RS20 40-2GW50**		1	1 unit	101	0.100
TYPE J, K, T, E, N (thermoelement)	-99 … +999 °C	24 AC/DC	B	**3RS11 40-2GD60**		1	1 unit	101	0.269
		24 … 240 AC/DC	B	**3RS11 40-2GW60**		1	1 unit	101	0.300
	-99 … +1830 °F	24 AC/DC	C	**3RS21 40-2GD60**		1	1 unit	101	0.100
		24 … 240 AC/DC	C	**3RS21 40-2GW60**		1	1 unit	101	0.100
"Temperature limiters" and "Temperature monitors" according to DIN 3440, digitally adjustable, 2 threshold values, width 45 mm; 1 CO + 1 CO + 1 NO, tripping state and device parameters are non-volatile									
PT100/1000; KTY83/84; NTC (resistance sensors)[1]	-50 … +750 °C	24 AC/DC	C	**3RS10 42-2GD70**		1	1 unit	101	0.267
		24 … 240 AC/DC	C	**3RS10 42-2GW70**		1	1 unit	101	0.281
TYPE J, K, T, E, N, R, S, B (thermoelement)	-99 … +1800 °C	24 AC/DC	C	**3RS11 42-2GD80**		1	1 unit	101	0.269
		24 … 240 AC/DC	C	**3RS11 42-2GW80**		1	1 unit	101	0.300

[1] NTC type: B57227-K333-A1 (100 °C: 1.8 kΩ; 25 °C: 32.762 kΩ).

Accessories

	Design	Language used for labels	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
									kg
Blank labels									
	Blank labels, 20 mm x 7 mm, pastel turquoise[1]		C	**3RT19 00-1SB20**		100	340 units	101	0.220
Replaceable cover labels for digital devices									
	Replaceable cover labels for digital devices according to DIN 3440	German	B	**3RS19 01-1A**		1	5 units	101	0.005
		English	B	**3RS19 01-1C**		1	5 units	101	0.005
Push-in lugs									
 3RP19 03	Push-in lugs for screw mounting, 2 units are required for each device		►	**3RP19 03**		1	10 units	101	0.002

Matching sensors can be found on the Internet at www.siemens.com/temperature

[1] Computer labeling system for individual labeling of unit labeling plates available from: murrplastik Systemtechnik GmbH.

* You can order this quantity or a multiple thereof.

3RS10, 3RS11 Temperature Monitoring Relays

Relays, digitally adjustable for up to 3 sensors

Overview

The 3RS10 41 temperature monitoring relays can be used for measuring temperatures in solid, liquid and gas media. The temperature is sensed by the sensor in the medium, evaluated by the device and monitored for overshoot or undershoot or for staying within an operating range (window function). The evaluation unit can evaluate up to 3 resistance sensors at the same time and is specially designed for monitoring motor windings and bearings.

Benefits

- Very simple operation without complicated menu selections
- Space-saving with 45 mm width
- All devices are available alternatively with spring-loaded terminals
- 2 or 3-point closed-loop control can be configured quickly
- All versions with removable terminals
- All versions with screw terminals or alternatively with innovative spring-loaded terminals

Application

The 3RS10 41 temperature monitoring relays can be used in almost any application in which several temperatures have to be monitored simultaneously for overshoot or undershoot or within a range.

Monitoring of set temperature limits and output of alarm messages for:

- Plant and environment protection
- Temperature limits for process variables e.g. in the packaging industry or electroplating
- Controlling equipment and machines such as heating, climate and ventilation systems, solar collectors, heat pumps or warm water supplies
- Motor, bearing and gear oil monitoring
- Monitoring of coolants

The short-circuit and open-circuit detection as well as the measuring range is limited, depending on the sensor type.

Measuring range in °C for resistance sensors

Sensor type	Open-circuit	Short-circuit	Measuring range in °C
PT100	x	x	–50 ... +500
PT1000	x	x	–50 ... +500
KTY 83-110	x	x	–50 ... +175
KTY 84	x	x	–40 ... +300
NTC	--	x	+80 ... +160

x Available
-- Not available

3RS10, 3RS11 Temperature Monitoring Relays

Relays, digitally adjustable for up to 3 sensors

Selection and ordering data

Digitally adjustable evaluation units

The digitally adjustable temperature monitoring relays are very simple to operate. The three-digit LED display always shows the current temperature. A separate relay with an NO contact is included for sensor monitoring. The relay is switched off in parameterization mode.

The following parameters can be adjusted:

- Sensor type
- 2 threshold values, $\vartheta 1$, $\vartheta 2$
- 1 hysteresis; applies to both thresholds (0 ... 99 K)
- 1 delay time; applies to both thresholds (0 ... 999 s)
- Open/closed-circuit principle
- Function: Overshoot or undershoot or window monitoring

Wide-range voltage versions are electrically isolated.
The temperature ranges depend on the sensor type.

Sensor	Number of sensors	Measuring range	Rated control supply voltage U_s	DT	**Screw terminals** Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
		°C	V							kg
Motor monitoring relays, digitally adjustable for up to 3 sensors, width 45 mm; 1 CO + 1 CO + 1 NO										
PT100/1000; KTY83/84; NTC (resistance sensors)[1]	1 to 3 sensors	-50 ... +500	24 ... 240 AC/DC	A	**3RS10 41-1GW50**		1	1 unit	101	0.333

3RS10 41-1GW50

1) NTC type: B57227-K333-A1 (100 °C: 1.8 kΩ; 25 °C: 32.762 kΩ).

Sensor	Number of sensors	Measuring range	Rated control supply voltage U_s	DT	**Spring-loaded terminals** Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
		°C	V							kg
Motor monitoring relays, digitally adjustable for up to 3 sensors, width 45 mm; 1 CO + 1 CO + 1 NO										
PT100/1000; KTY83/84; NTC (resistance sensors)[1]	1 to 3 sensors	-50 ... +500	24 ... 240 AC/DC	B	**3RS10 41-2GW50**		1	1 unit	101	0.283

1) NTC type: B57227-K333-A1 (100 °C: 1.8 kΩ; 25 °C: 32.762 kΩ).

Accessories

Design	Language used for labels	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
								kg
Blank labels								
Blank labels, 20 mm x 7 mm, pastel turquoise[1]		C	**3RT19 00-1SB20**		100	340 units	101	0.220
Replaceable cover labels for digital devices								
Replaceable cover labels for digital devices according to DIN 3440	German	B	**3RS19 01-1B**		1	5 units	101	0.005
	English	B	**3RS19 01-1D**		1	5 units	101	0.005
Push-in lugs								
Push-in lugs for screw mounting, 2 units are required for each device		►	**3RP19 03**		1	10 units	101	0.002

3RP19 03

Matching sensors can be found on the Internet at www.siemens.com/temperature

1) Computer labeling system for individual labeling of unit labeling plates available from: murrplastik Systemtechnik GmbH

*** You can order this quantity or a multiple thereof.**

Overview

Thermistor motor protection devices are used for direct monitoring of the motor winding temperature. For this purpose, the motors are equipped with temperature-dependent resistors (PTC) that are directly installed in the motor winding and abruptly change their resistance at their limit temperature.

Benefits

- Thanks to direct motor protection, overdimensioning of the motors is not necessary
- No additional overload protection equipment is necessary
- No settings on the device are necessary
- Electronically optimized output thanks to variants with hard gold-plated contacts
- Rapid error diagnosis thanks to variants that indicate open- and short-circuit in the sensor circuit
- All versions with removable terminals
- All versions with screw terminals or alternatively with innovative spring-loaded terminals

Application

Direct motor protection through temperature monitoring of the motor winding offers 100 % motor protection even under the most difficult ambient conditions, without the need to make adjustments on the device. Versions with hard gold-plated contacts ensure, in addition, a high switching reliability that is even higher than an electronic control.

Motor protection:

- At increased ambient temperatures
- For high switching frequency
- For long start-up and braking procedures
- Used together with frequency converters (low speeds)

For PTC sensors

Selection and ordering data

Thermistor motor protection relays for PTC thermistors (Type A PTCs)

- Monostable version with closed-circuit principle, triggers in the event of control supply voltage failure
- PTB01 ATEX approval, see LV 1 T "Technical Information".
- 3RN10 13-.BW01: bistable version, does not trigger in the event of control supply voltage failure
- All devices except for 24 V AC/DC feature electrical isolation

RESET	Contacts	Rated control supply voltage U_s 50/60 Hz	DT	Screw terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
		V							kg
Compact signal evaluation units, width 22.5 mm, 1 LED									
Terminal A1 is jumpered with the root of the changeover contact									
Auto	1 CO	24 AC/DC	▶	**3RN10 00-1AB00**		1	1 unit	101	0.114
		110 AC	A	**3RN10 00-1AG00**		1	1 unit	101	0.157
		230 AC	▶	**3RN10 00-1AM00**		1	1 unit	101	0.156
Standard evaluation units, width 22.5 mm, 2 LEDs									
 3RN10 13-1BB00	Auto	1 NO + 1 NC	24 AC/DC	▶	**3RN10 10-1CB00**		1	1 unit	101	0.134
			110 AC	▶	**3RN10 10-1CG00**		1	1 unit	101	0.174
			230 AC	▶	**3RN10 10-1CM00**		1	1 unit	101	0.175
			24 … 240 AC/DC	▶	**3RN10 10-1CW00**		1	1 unit	101	0.146
		2 CO	24 AC/DC	A	**3RN10 10-1BB00**		1	1 unit	101	0.162
			110 AC	A	**3RN10 10-1BG00**		1	1 unit	101	0.213
			230 AC	A	**3RN10 10-1BM00**		1	1 unit	101	0.213
		2 CO, gold-plated	24 AC/DC	B	**3RN10 10-1GB00**		1	1 unit	101	0.154
	Manual/ Remote[1]	1 NO + 1 NC	24 AC/DC	▶	**3RN10 11-1CB00**		1	1 unit	101	0.147
			110 / 230 AC	▶	**3RN10 11-1CK00**		1	1 unit	101	0.188
 3RN10 13-1BW01	Short-circuit detection for sensor circuit									
	Manual/ Remote[1]	2 CO	24 AC/DC	A	**3RN10 11-1BB00**		1	1 unit	101	0.163
			110 AC	B	**3RN10 11-1BG00**		1	1 unit	101	0.214
			230 AC	A	**3RN10 11-1BM00**		1	1 unit	101	0.212
		2 CO, gold-plated	24 AC/DC	B	**3RN10 11-1GB00**		1	1 unit	101	0.165
	Non-volatile[2] Manual/ Auto/ Remote	1 NO + 1 NC	24 AC/DC	▶	**3RN10 12-1CB00**		1	1 unit	101	0.148
			110 / 230 AC	▶	**3RN10 12-1CK00**		1	1 unit	101	0.188
	Non-volatile[2], short-circuit detection in sensor circuit									
	Manual/ Auto/ Remote	2 CO	24 AC/DC	B	**3RN10 12-1BB00**		1	1 unit	101	0.164
			110 AC	B	**3RN10 12-1BG00**		1	1 unit	101	0.214
			230 AC	A	**3RN10 12-1BM00**		1	1 unit	101	0.216
		2 CO, gold-plated	24 AC/DC	B	**3RN10 12-1GB00**		1	1 unit	101	0.155
	Non-volatile[2], short-circuit and open-circuit detection and indication in sensor circuit; wide-range voltage with screw terminal with safe isolation									
	Manual/ Auto/ Remote	2 CO	24 AC/DC	▶	**3RN10 13-1BB00**		1	1 unit	101	0.160
			24 … 240 AC/DC	▶	**3RN10 13-1BW10**		1	1 unit	101	0.172
		2 CO, gold-plated	24 … 240 AC/DC	B	**3RN10 13-1GW10**		1	1 unit	101	0.168
Evaluation units for 2 sensor circuits, warning and disconnection, width 22.5 mm, 3 LEDs									
Test / RESET button, non-volatile[2]									
Manual/ Auto/ Remote	1 NO + 1 CO	24 … 240 AC/DC	▶	**3RN10 22-1DW00**		1	1 unit	101	0.173
Evaluation units for 6 sensor circuits, multiple motor protection, width 45 mm, 8 LEDs									
Test / RESET button, non-volatile[2]									
Manual/ Auto/ Remote	1 NO + 1 NC	24 … 240 AC/DC	▶	**3RN10 62-1CW00**		1	1 unit	101	0.296
Bistable evaluation units, width 22.5 mm									
Test / RESET button, non-volatile[2], short-circuit and open-circuit detection and indication in sensor circuit									
Manual/ Auto/ Remote	2 CO	24 … 240 AC/DC	▶	**3RN10 13-1BW01**		1	1 unit	101	0.169

[1] The unit can be reset with the RESET button or by disconnecting the control supply voltage.

[2] For more information on protection against voltage failure, see LV 1 T "Technical Information".

*** You can order this quantity or a multiple thereof.**

Thermistor motor protection relays for PTC thermistors (Type A PTCs)

- Monostable version with closed-circuit principle, triggers in the event of control supply voltage failure
- PTB01 ATEX approval, see LV 1 T "Technical Information".
- 3RN10 13-.BW01: bistable version, does not trigger in the event of control supply voltage failure
- All devices except for 24 V AC/DC feature electrical isolation

RESET	Contacts	Rated control supply voltage U_s 50/60 Hz	DT	Spring-loaded terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
		V							kg
Compact signal evaluation units, width 22.5 mm, 1 LED									
Terminal A1 is jumpered with the root of the changeover contact									
Auto	1 CO	24 AC/DC	A	**3RN10 00-2AB00**		1	1 unit	101	0.104
		110 AC	B	**3RN10 00-2AG00**		1	1 unit	101	0.153
		230 AC	B	**3RN10 00-2AM00**		1	1 unit	101	0.153
Standard evaluation units, width 22.5 mm, 2 LEDs									
Auto	1 NO + 1 NC	24 AC/DC	▶	**3RN10 10-2CB00**		1	1 unit	101	0.116
		110 AC	B	**3RN10 10-2CG00**		1	1 unit	101	0.153
		230 AC	A	**3RN10 10-2CM00**		1	1 unit	101	0.159
		24 … 240 AC/DC	A	**3RN10 10-2CW00**		1	1 unit	101	0.127
	2 CO	24 AC/DC	C	**3RN10 10-2BB00**		1	1 unit	101	0.137
		110 AC	C	**3RN10 10-2BG00**		1	1 unit	101	0.139
		230 AC	C	**3RN10 10-2BM00**		1	1 unit	101	0.190
	2 CO, gold-plated	24 AC/DC	C	**3RN10 10-2GB00**		1	1 unit	101	0.139
Manual/ Remote[1]	1 NO + 1 NC	24 AC/DC	A	**3RN10 11-2CB00**		1	1 unit	101	0.125
		110 / 230 AC	A	**3RN10 11-2CK00**		1	1 unit	101	0.164
Short-circuit detection for sensor circuit									
Manual/ Remote[1]	2 CO	24 AC/DC	C	**3RN10 11-2BB00**		1	1 unit	101	0.138
		110 AC	C	**3RN10 11-2BG00**		1	1 unit	101	0.190
		230 AC	B	**3RN10 11-2BM00**		1	1 unit	101	0.192
	2 CO, gold-plated	24 AC/DC	C	**3RN10 11-2GB00**		1	1 unit	101	0.154
Non-volatile[2]									
Manual/Auto/ Remote	1 NO + 1 NC	24 AC/DC	A	**3RN10 12-2CB00**		1	1 unit	101	0.125
		110 / 230 AC	B	**3RN10 12-2CK00**		1	1 unit	101	0.161
Non-volatile[2], short-circuit detection in sensor circuit									
Manual/Auto/ Remote	2 CO	24 AC/DC	C	**3RN10 12-2BB00**		1	1 unit	101	0.130
		110 AC	C	**3RN10 12-2BG00**		1	1 unit	101	0.130
		230 AC	C	**3RN10 12-2BM00**		1	1 unit	101	0.181
	2 CO, gold-plated	24 AC/DC	C	**3RN10 12-2GB00**		1	1 unit	101	0.140
Non-volatile[2], short-circuit and open-circuit detection and indication in sensor circuit; wide-range voltage with screw terminal with safe isolation									
Manual/Auto/ Remote	2 CO	24 AC/DC	A	**3RN10 13-2BB00**		1	1 unit	101	0.140
		24 … 240 AC/DC	A	**3RN10 13-2BW00**		1	1 unit	101	0.151
	2 CO, gold-plated	24 … 240 AC/DC	C	**3RN10 13-2GW00**		1	1 unit	101	0.143
Evaluation units for 2 sensor circuits, warning and disconnection, width 22.5 mm, 3 LEDs									
Test / RESET button, non-volatile[2]									
Manual/Auto/ Remote	1 NO + 1 CO	24 … 240 AC/DC	B	**3RN10 22-2DW00**		1	1 unit	101	0.147
Evaluation units for 6 sensor circuits, multiple motor protection, width 45 mm, 8 LEDs									
Test / RESET button, non-volatile[2]									
Manual/Auto/ Remote	1 NO + 1 NC	24 … 240 AC/DC	B	**3RN10 62-2CW00**		1	1 unit	101	0.251
Bistable evaluation units, width 22.5 mm									
Test / RESET button, non-volatile[2], short-circuit and open-circuit detection and indication in sensor circuit									
Manual/Auto/ Remote	2 CO	24 … 240 AC/DC	B	**3RN10 13-2BW01**		1	1 unit	101	0.139

3RN10 12-2CK00

1) The unit can be reset with the RESET button or by disconnecting the control supply voltage.

2) For more information on protection against voltage failure, see LV 1 T "Technical Information".

*** You can order this quantity or a multiple thereof.**

For PTC sensors

Accessories

	Application	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
Blank labels									
		Blank labels, 20 mm x 7 mm, pastel turquoise [1]	C	**3RT19 00-1SB20**		100	340 units	101	0.220
Push-in lugs									
 3RP19 03	for devices with 1 or 2 CO contacts	**Push-in lugs** for screw mounting, 2 units are required for each device	►	**3RP19 03**		1	10 units	101	0.002

[1] Computer labeling system for individual labeling of unit labeling plates available from: murrplastik Systemtechnik GmbH.

* You can order this quantity or a multiple thereof.

Overview

SIRIUS safety relays are the key elements of a consistent and cost-effective safety chain. Be it EMERGENCY-STOP disconnection, protective door monitoring or the protection of presses or punches – with SIRIUS safety relays every safety application can be implemented to optimum effect in terms of engineering and price.

SIRIUS safety relays provide numerous safety-related functions:
- Monitoring the safety functions of sensors
- Monitoring the sensor cables
- Monitoring the correct operation of the safety relay
- Monitoring the actuators (contactors) in the shutdown circuit
- Safety-oriented disconnection when dangers arise

SIRIUS safety relays meet the highest requirements (Category 4) according to EN 954-1 and achieve the highest safety integrity level (SIL 3) according to IEC 61508.

Benefits

General

- Can be used for all safety applications thanks to compliance with the highest safety standards (Category 4 according to EN 954-1 or SIL 3 according to IEC 61508)
- Suitable for use all over the world through compliance with all globally established certifications
- Compact, service-proven SIRIUS design creates more space in the control cabinet
- Flexible connectability and expendability make subsequent changes easy
- Removable terminals for greater plant availability
- Yellow front plate clearly identifies the device as an item of safety equipment
- Sensor cable up to 2000 m long enables use in large-scale plants

Relay outputs

- Different voltages can be switched through the floating contacts
- Higher currents can be switched with relay contacts

Solid-state outputs

- Wear-free
- Suitable for operation in fast switching applications
- Insensitive to vibrations and dirt
- Good electrical endurance

Microprocessor systems

- Flexible use thanks to many different integrated functions
- Easy parameterization using DIP switches on the front
- High functional reliability based on extensive monitoring functions
- Operated by the machine control
- Also connection of non-contact sensors (light arrays, light barriers etc.)

Application

SIRIUS safety relays are used mainly in autonomous safety applications which are not connected to a safety-oriented bus system. Their function here is to evaluate the sensors and the safety-oriented shutdown of hazards. Also they check and monitor the sensors, actuators and safety-oriented functions of the safety relay.

With electronic enabling circuits

Selection and ordering data

Type	**3TK28 40** Basic units	**3TK28 41** Basic units	**3TK28 42** Basic units t_v
Sensors			
• Input	1	1	1
• Solid-state	--	✔	✔
• With contacts	✔	✔	✔
Safety mats	--	✔	✔
Start			
• Auto	✔	✔	✔
• Monitored	✔	✔	✔
Cascading input 24 V DC	--	✔	✔
Key-operated switches	--	--	--
Enabling circuit, floating			
• Stop category 0	--	--	--
• Stop category 1	--	--	--
Enabling circuit, solid-state			
• Stop category 0	2[1)]	2	1
• Stop category 1	--	--	1
Signaling outputs			
• Floating	--	--	--
• Solid-state	--	--	--
Category according to EN 954-1 max	3	4	4
SIL level max.	2	3	3
Rated control supply voltage 24 V DC	✔	✔	✔

✔ = Available
-- = Not available

[1)] The outputs are only safe when an external contactor is used.

With electronic enabling circuits

Rated control supply voltage U_S	OFF-delay t_V	DT	Screw terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
V	s							kg
Rated control supply voltage U_S 24 V DC								
3TK28 40 basic units								
24 DC	--	A	**3TK28 40-1BB40**		1	1 unit	102	0.180
3TK28 41 basic units								
24 DC	--	A	**3TK28 41-1BB40**		1	1 unit	102	0.166
3TK28 42 basic units t_V								
24 DC	0.05 ... 3	A	**3TK28 42-1BB41**		1	1 unit	102	0.168
	0.5 ... 30	A	**3TK28 42-1BB42**		1	1 unit	102	0.166
	5 ... 300	A	**3TK28 42-1BB44**		1	1 unit	102	0.166

3TK28 41-1BB40

3TK28 42-1BB41

Rated control supply voltage U_S	OFF-delay t_V	DT	Spring-loaded terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
V	s							kg
Rated control supply voltage U_S 24 V DC								
3TK28 40 basic units								
24 DC	--	B	**3TK28 40-2BB40**		1	1 unit	102	0.150
3TK28 41 basic units								
24 DC	--	A	**3TK28 41-2BB40**		1	1 unit	102	0.143
3TK28 42 basic units t_V								
24 DC	0.05 ... 3	B	**3TK28 42-2BB41**		1	1 unit	102	0.143
	0.5 ... 30	A	**3TK28 42-2BB42**		1	1 unit	102	0.146
	5 ... 300	B	**3TK28 42-2BB44**		1	1 unit	102	0.149

Accessories

Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
							kg
Push-in lugs and covers							
Push-in lugs for screw mounting, 2 units are required for each device	►	**3RP19 03**		1	10 units	101	0.002
Sealable covers for securing against unauthorized adjustment of setting knobs	►	**3RP19 02**		1	5 units	101	0.004

3RP19 03

3RP19 02

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* You can order this quantity or a multiple thereof.

With relay enabling circuits

Selection and ordering data




Type	3TK28 21 Basic units	3TK28 22 Basic units	3TK28 23 Basic units	3TK28 24 Basic units	3TK28 25 Basic units	3TK28 27 Basic units t_v	3TK28 28 Basic units t_v	3TK28 30 Expansion units	3TK28 34 Two-hand control units	3TK28 35 Slowing down test apparatus
Sensors										
• Input	1	1	1	1	1	1	1	--	1	--
• Solid-state	--	--	--	--	--	--	--	--	--	--
• With contacts	✔	✔[1]	✔	✔	✔	✔	✔	--	✔	--
Safety mats	--	--	--	--	--	--	--	--	--	--
Start										
• Auto	✔	✔	--	✔	✔	--	✔	--	--	--
• Monitored	--	--	✔	--	✔	✔	--	--	--	--
Cascading input 24 V DC	--	--	--	--	--	--	--	--	--	--
Key-operated switches	--	--	--	--	--	--	--	--	--	--
Enabling circuit, floating										
• Stop category 0	3 NO	2 NO	2 NO	2 NO	3 NO	2 NO	2 NO	4 NO	2 NO+2 NC	3 NO+2 NC
• Stop category 1	--	--	--	--	--	2 NO	2 NO	--	--	--
Enabling circuit, solid-state										
• Stop category 0	--	--	--	--	--	--	--	--	--	--
• Stop category 1	--	--	--	--	--	--	--	--	--	--
Signaling outputs										
• Floating	1 NC	--	--	--	2 NC	1 NC	1 NC	--	--	--
• Solid-state	--	--	--	--	--	--	--	--	--	--
Category according to EN 954-1 max	3[2]	4	4	3[2]	4	4[3]	4[3]	Corresponds to basic unit	4	4
SIL level max.	--	--	--	--	--	--	--	Corresponds to basic unit	--	--
Rated control supply voltage										
• 24 V DC	--	--	--	✔	✔	✔	✔	--	✔	✔
• 24 V AC/DC	✔	✔	✔	✔	--	--	--	✔	--	--
• 24 V AC	--	--	--	--	✔	✔	✔	--	✔	✔
• 115 V AC	--	--	--	✔	✔	✔	✔	✔	✔	✔
• 230 V AC	--	--	--	✔	✔	✔	✔	✔	✔	✔
• 24 ... 240 V AC/DC	--	--	--	--	--	--	--	--	--	--

✔ = Available
-- = Not available

1) The ON button is not monitored.
2) Depending on the hazard assessment, additional measures may be necessary in the sensor circuit (e.g. protected laying).
3) Only possible for instantaneous enabling contacts, otherwise Category 3.
4) For expansion of Siemens safety products.

With relay enabling circuits

Rated control supply voltage U_s	OFF-delay t_v	DT	Screw terminals		PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
V	s		Order No.	Price per PU				kg
Rated control supply voltages U_s 24 V DC and 50/60 Hz 24, 115, 230 V AC								
3TK28 21 basic units								
24 AC/DC	--	▶	**3TK28 21-1CB30**		1	1 unit	102	0.276
3TK28 22 basic units								
24 AC/DC	--	▶	**3TK28 22-1CB30**		1	1 unit	102	0.271
3TK28 23 basic units								
24 AC/DC	--	▶	**3TK28 23-1CB30**		1	1 unit	102	0.271
3TK28 24 basic units								
24 AC/DC	--	▶	**3TK28 24-1CB30**		1	1 unit	102	0.254
24 DC	--	▶	**3TK28 24-1BB40**		1	1 unit	102	0.249
115 AC	--	A	**3TK28 24-1AJ20**		1	1 unit	102	0.294
230 AC	--	▶	**3TK28 24-1AL20**		1	1 unit	102	0.288
3TK28 25 basic units								
24 DC	--	▶	**3TK28 25-1BB40**		1	1 unit	102	0.423
24 AC	--	A	**3TK28 25-1AB20**		1	1 unit	102	0.421
115 AC	--	▶	**3TK28 25-1AJ20**		1	1 unit	102	0.519
230 AC	--	▶	**3TK28 25-1AL20**		1	1 unit	102	0.516
3TK28 27 basic units t_v								
24 DC	0.05 ... 3	▶	**3TK28 27-1BB41**		1	1 unit	102	0.495
24 AC		B	**3TK28 27-1AB21**		1	1 unit	102	0.499
115 AC		B	**3TK28 27-1AJ21**		1	1 unit	102	0.650
230 AC		A	**3TK28 27-1AL21**		1	1 unit	102	0.650
24 DC	0.5 ... 30	▶	**3TK28 27-1BB40**		1	1 unit	102	0.497
24 AC		A	**3TK28 27-1AB20**		1	1 unit	102	0.496
115 AC		▶	**3TK28 27-1AJ20**		1	1 unit	102	0.650
230 AC		▶	**3TK28 27-1AL20**		1	1 unit	102	0.650
3TK28 28 basic units t_v								
24 DC	0.05 ... 3	▶	**3TK28 28-1BB41**		1	1 unit	102	0.499
24 AC		B	**3TK28 28-1AB21**		1	1 unit	102	0.501
115 AC		B	**3TK28 28-1AJ21**		1	1 unit	102	0.657
230 AC		A	**3TK28 28-1AL21**		1	1 unit	102	0.650
24 DC	0.5 ... 30	▶	**3TK28 28-1BB40**		1	1 unit	102	0.496
24 AC		B	**3TK28 28-1AB20**		1	1 unit	102	0.500
115 AC		A	**3TK28 28-1AJ20**		1	1 unit	102	0.650
230 AC		A	**3TK28 28-1AL20**		1	1 unit	102	0.650
3TK28 30 expansion units								
24 AC/DC	--	▶	**3TK28 30-1CB30**		1	1 unit	102	0.267
115 AC		A	**3TK28 30-1AJ20**		1	1 unit	102	0.306
230 AC		A	**3TK28 30-1AL20**		1	1 unit	102	0.306
3TK28 34 two-hand control units								
24 DC	--	▶	**3TK28 34-1BB40**		1	1 unit	102	0.432
24 AC		A	**3TK28 34-1AB20**		1	1 unit	102	0.424
115 AC		A	**3TK28 34-1AJ20**		1	1 unit	102	0.519
230 AC		A	**3TK28 34-1AL20**		1	1 unit	102	0.519
3TK28 35 slowing down test apparatus								
24 DC	--	B	**3TK28 35-1BB40**		1	1 unit	102	0.495
115 AC	--	B	**3TK28 35-1AJ20**		1	1 unit	102	0.572
230 AC	--	B	**3TK28 35-1AL20**		1	1 unit	102	0.574

3TK28 21-1CB30

3TK28 25-1CB30

3TK28 27-1CB31

3TK28 30-1CB40

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* You can order this quantity or a multiple thereof.

With relay enabling circuits

Rated control supply voltage U_s	OFF-delay t_v	DT	Spring-loaded terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
V	s							kg
Rated control supply voltages U_s 24 V DC and 50/60 Hz 24, 115, 230 V AC								
3TK28 21 basic units								
24 AC/DC	--	▶	**3TK28 21-2CB30**		1	1 unit	102	0.246
3TK28 22 basic units								
24 AC/DC	--	A	**3TK28 22-2CB30**		1	1 unit	102	0.250
3TK28 23 basic units								
24 AC/DC	--	A	**3TK28 23-2CB30**		1	1 unit	102	0.247
3TK28 24 basic units								
24 AC/DC	--	A	**3TK28 24-2CB30**		1	1 unit	102	0.230
24 DC	--	▶	**3TK28 24-2BB40**		1	1 unit	102	0.228
115 AC	--	B	**3TK28 24-2AJ20**		1	1 unit	102	0.265
230 AC	--	B	**3TK28 24-2AL20**		1	1 unit	102	0.270
3TK28 25 basic units								
24 DC	--	▶	**3TK28 25-2BB40**		1	1 unit	102	0.374
24 AC	--	B	**3TK28 25-2AB20**		1	1 unit	102	0.375
115 AC	--	B	**3TK28 25-2AJ20**		1	1 unit	102	0.472
230 AC	--	B	**3TK28 25-2AL20**		1	1 unit	102	0.475
3TK28 27 basic units t_v								
24 DC	0.05 ... 3	A	**3TK28 27-2BB41**		1	1 unit	102	0.454
24 AC		B	**3TK28 27-2AB21**		1	1 unit	102	0.454
115 AC		B	**3TK28 27-2AJ21**		1	1 unit	102	0.240
230 AC		B	**3TK28 27-2AL21**		1	1 unit	102	0.605
24 DC	0.5 ... 30	A	**3TK28 27-2BB40**		1	1 unit	102	0.455
24 AC		B	**3TK28 27-2AB20**		1	1 unit	102	0.454
115 AC		B	**3TK28 27-2AJ20**		1	1 unit	102	0.606
230 AC		B	**3TK28 27-2AL20**		1	1 unit	102	0.604
3TK28 28 basic units t_v								
24 DC	0.05 ... 3	A	**3TK28 28-2BB41**		1	1 unit	102	0.450
24 AC		C	**3TK28 28-2AB21**		1	1 unit	102	0.454
115 AC		B	**3TK28 28-2AJ21**		1	1 unit	102	0.240
230 AC		B	**3TK28 28-2AL21**		1	1 unit	102	0.608
24 DC	0.5 ... 30	▶	**3TK28 28-2BB40**		1	1 unit	102	0.457
24 AC		B	**3TK28 28-2AB20**		1	1 unit	102	0.468
115 AC		B	**3TK28 28-2AJ20**		1	1 unit	102	0.609
230 AC		B	**3TK28 28-2AL20**		1	1 unit	102	0.612
3TK28 30 expansion units								
24 AC/DC	--	▶	**3TK28 30-2CB30**		1	1 unit	102	0.244
115 AC		B	**3TK28 30-2AJ20**		1	1 unit	102	0.276
230 AC		B	**3TK28 30-2AL20**		1	1 unit	102	0.276
3TK28 34 two-hand control units								
24 DC	--	A	**3TK28 34-2BB40**		1	1 unit	102	0.383
24 AC		B	**3TK28 34-2AB20**		1	1 unit	102	0.376
115 AC		B	**3TK28 34-2AJ20**		1	1 unit	102	0.472
230 AC		B	**3TK28 34-2AL20**		1	1 unit	102	0.472
3TK28 35 slowing down test apparatus								
115 AC	--	B	**3TK28 35-2AJ20**		1	1 unit	102	0.551
230 AC	--	B	**3TK28 35-2AL20**		1	1 unit	102	0.552

Accessories

	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
								kg
Push-in lugs and covers								
 3RP19 03	**Push-in lugs** for screw mounting, 2 units are required for each device	▶	**3RP19 03**		1	10 units	101	0.002
 3RP19 02	**Sealable covers** for securing against unauthorized adjustment of setting knobs	▶	**3RP19 02**		1	5 units	101	0.004

* You can order this quantity or a multiple thereof.

Selection and ordering data

Type	3TK28 50 Basic units	3TK28 51 Basic units	3TK28 52 Basic units	3TK28 53 Basic units	3TK28 56 Expansion units[1]	3TK28 57 Expansion units[1] t_v
Sensors						
• Input	1	1	1	1	--	--
• Solid-state	--	--	--	✔	--	--
• With contacts	✔	✔	✔	✔	--	--
Safety mats	✔	✔	✔	✔	--	--
Start						
• Auto	✔	✔	✔	✔	--	--
• Monitored	✔	✔	✔	✔	--	--
Cascading input 24 V DC	--	--	--	✔	✔	✔
Key-operated switches	--	--	--	--	--	--
Enabling circuit, floating						
• Stop category 0	3 NO	2 NO	6 NO	3 NO	6 NO	--
• Stop category 1	--	--	--	--	--	3 NO
Enabling circuit, solid-state						
• Stop category 0	--	--	--	1	1	1
• Stop category 1	--	--	--	--	--	--
Signaling outputs						
• Floating	--	1 NC	1 NC	--	1 NC	--
• Solid-state	--	--	--	--	--	--
Category according to EN 954-1 max	3	3	3	4	Corresponds to basic unit	Corresponds to basic unit
SIL level max.	2	2	2	3	--	--
Rated control supply voltage						
• 24 V DC	✔	✔	✔	✔	✔	✔
• 24 V AC/DC	--	--	--	--	--	--
• 24 V AC	✔	✔	--	--	--	--
• 115 V AC	✔	✔	--	--	--	--
• 230 V AC	✔	✔	✔	--	--	--
• 24 ... 240 V AC/DC	--	--	--	--	--	--
Rated operational voltage						
• 24 V DC	✔	✔	✔	✔	✔	✔
• 230 V AC	✔	✔	✔	✔	✔	✔
• 600 V AC	✔	✔	✔	✔	✔	✔
Switching capacity						
• AC-15 at U = 230 V	✔	✔	✔	✔	✔	✔
• DC-13 at U = 24 V	✔	✔	✔	✔	✔	✔

✔ = Available
-- = Not available

[1] For expansion of Siemens safety products.

With contactor relay enabling circuits

Rated control supply voltage U_s	OFF-delay t_v	DT	With screw terminals		PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
V	s		Order No.	Price per PU				kg
Rated control supply voltages U_s 24 V DC and 50/60 Hz , 115, 230 V AC								
3TK28 50 basic units								
24 DC	--	A	**3TK28 50-1BB40**		1	1 unit	102	0.819
115 AC		B	**3TK28 50-1AJ20**		1	1 unit	102	0.765
230 AC		B	**3TK28 50-1AL20**		1	1 unit	102	0.770
3TK28 51 basic units								
24 DC	--	B	**3TK28 51-1BB40**		1	1 unit	102	0.821
115 AC		B	**3TK28 51-1AJ20**		1	1 unit	102	0.770
230 AC		B	**3TK28 51-1AL20**		1	1 unit	102	0.767
3TK28 52 basic units								
24 DC	--	A	**3TK28 52-1BB40**		1	1 unit	102	0.919
230 AC		B	**3TK28 52-1AL20**		1	1 unit	102	0.870
3TK28 53 basic units								
24 DC	--	A	**3TK28 53-1BB40**		1	1 unit	102	0.714
3TK28 56 expansion units								
24 DC	--	B	**3TK28 56-1BB40**		1	1 unit	102	0.785
3TK28 57 expansion units t_v								
24 DC	0.05 ... 3	B	**3TK28 57-1BB41**		1	1 unit	102	0.682
24 DC	0.5 ... 30	B	**3TK28 57-1BB42**		1	1 unit	102	0.679
24 DC	5 ... 300	B	**3TK28 57-1BB44**		1	1 unit	102	0.650

3TK28 50-2BB40

3TK28 51-2BB40

3TK28 52-2BB40

Rated control supply voltage U_s	OFF-delay t_v	DT	With spring-loaded terminals		PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
V	s		Order No.	Price per PU				kg
Rated control supply voltages U_s 24 V DC and 50/60 Hz , 115, 230 V AC								
3TK28 50 basic units								
24 DC	--	B	**3TK28 50-2BB40**		1	1 unit	102	0.820
115 AC		B	**3TK28 50-2AJ20**		1	1 unit	102	0.650
230 AC		B	**3TK28 50-2AL20**		1	1 unit	102	0.761
3TK28 51 basic units								
24 DC	--	B	**3TK28 51-2BB40**		1	1 unit	102	0.650
115 AC		B	**3TK28 51-2AJ20**		1	1 unit	102	0.650
230 AC		B	**3TK28 51-2AL20**		1	1 unit	102	0.768
3TK28 52 basic units								
24 DC	--	B	**3TK28 52-2BB40**		1	1 unit	102	0.935
230 AC		B	**3TK28 52-2AL20**		1	1 unit	102	0.878
3TK28 53 basic units								
24 DC	--	B	**3TK28 53-2BB40**		1	1 unit	102	0.705
3TK28 56 expansion units								
24 DC	--	B	**3TK28 56-2BB40**		1	1 unit	102	0.750
3TK28 57 expansion units t_v								
24 DC	0.05 ... 3	B	**3TK28 57-2BB41**		1	1 unit	102	0.650
	0.5 ... 30	B	**3TK28 57-2BB42**		1	1 unit	102	0.677
	5 ... 300	C	**3TK28 57-2BB44**		1	1 unit	102	0.650

* You can order this quantity or a multiple thereof.

Overview

Interface converters perform the coupling function for analog signals on both the input side and the output side. They are indispensable when processing analog values with electronic controls. Under harsh industrial conditions in particular, it is often necessary to transmit analog signals over long distances. This means that electrical isolation is essential due to the different supply systems. The resistance of the wiring causes potential differences and losses which must be prevented. Electromagnetic disturbance and overvoltages can affect the signals on the input side in particular or even destroy the analog modules. All terminals of the 3RS17 interface converters are safe up to a voltage of 30 V DC and protected against switching poles. Short-circuit protection is an especially important function for the outputs.

The devices are EMC-tested according to

- EN 50081 (basic specification for emitted interference),
- EN 61000-6-2 (basic specification for interference immunity).

The analog signals comply with

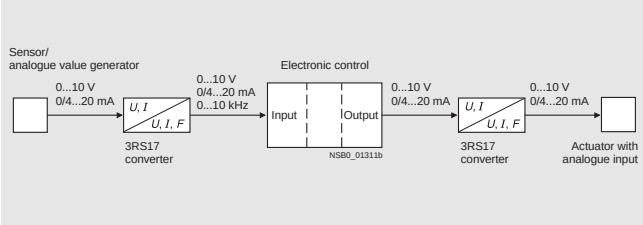
- IEC 60381-1/2.

Application

Converters are used in analog signal processing for

- Electrical isolation
- Conversion of normalized and non-normalized signals
- Matching of gain and impedances
- Conversion to a frequency for processing by a digital input
- Overvoltage and EMC protection
- Short-circuit protection of the outputs
- Potential duplication

Application example:
Interface converter in analog signal evaluation



3RS17 25 manual/automatic converter

For special applications in which analog signals have to be simulated, or during plant commissioning when the actual process value is not yet available, the 3RS17 25 devices feature an adjustable potentiometer for entering setpoints manually and a manual/automatic switch.

The adjustable potentiometer for the 3RS17 25 devices is used to simulate analog output signals when the changeover switch is set to "Manual" and the control supply voltage is applied, without the need for an analog input signal; the scale ranges from 0 % to 100 %.

Example: When it is set for an output of 4 mA to 20 mA, the 0 % scale value on the potentiometer represents an output current of 4 mA and the 100 % scale value represents an output current of 20 mA. In the "Auto" switch position, the output signal follows the input signal proportionally regardless of the potentiometer setting.

3RS17 interface converters

Selection and ordering data

All converters except the passive single interface converters have a yellow LED for indicating "Power on".

Input	Output	Width	Rated control supply voltage U_s	Electrical isolation	DT	Screw terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
		mm	V AC/DC								kg
Single interface converters, active											
0 ... 10 V	0 ... 10 V	6.2	24	2 paths	A	**3RS17 00-1AD00**		1	1 unit	101	0.053
	0 ... 20 mA	6.2	24	2 paths	A	**3RS17 00-1CD00**		1	1 unit	101	0.052
	4 ... 20 mA	6.2	24	2 paths	A	**3RS17 00-1DD00**		1	1 unit	101	0.052
0 ... 20 mA	0 ... 10 V	6.2	24	2 paths	A	**3RS17 02-1AD00**		1	1 unit	101	0.052
	0 ... 20 mA	6.2	24	2 paths	A	**3RS17 02-1CD00**		1	1 unit	101	0.052
	4 ... 20 mA	6.2	24	2 paths	A	**3RS17 02-1DD00**		1	1 unit	101	0.052
4 ... 20 mA	0 ... 10 V	6.2	24	2 paths	A	**3RS17 03-1AD00**		1	1 unit	101	0.052
	0 ... 20 mA	6.2	24	2 paths	A	**3RS17 03-1CD00**		1	1 unit	101	0.052
	4 ... 20 mA	6.2	24	2 paths	A	**3RS17 03-1DD00**		1	1 unit	101	0.053
Switchable multi-range converters, active											
0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA, switchable	0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA, switchable	6.2	24	2 paths	A	**3RS17 05-1FD00**		1	1 unit	101	0.053
		17.5	24 ... 240	3 paths	A	**3RS17 05-1FW00**		1	1 unit	101	0.090
0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA, switchable	0 ... 50 Hz, 0 ... 100 Hz, 0 ... 1 kHz, 0 ... 10 kHz, switchable	6.2	24	2 paths	A	**3RS17 05-1KD00**		1	1 unit	101	0.053
		17.5	24 ... 240	3 paths	A	**3RS17 05-1KW00**		1	1 unit	101	0.099
Switchable universal converters, active, with 16 input ranges and 3 output ranges											
 3RS17 06-1FD00	0 ... 60 mV, 0 ... 100 mV, 0 ... 300 mV, 0 ... 500 mV, 0 ... 1 V, 0 ... 2 V, 0 ... 5 V, 0 ... 10 V, 0 ... 20 V, 2 ... 10 V, 0 ... 5 mA, 0 ... 10 mA, 0 ... 20 mA, 4 ... 20 mA, +/-5 mA, +/-20 mA, switchable	0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA, switchable	17.5	24	2 paths	A	**3RS17 06-1FD00**		1	1 unit	101	0.082
					3 paths	A	**3RS17 06-1FE00**		1	1 unit	101	0.082
				24 ... 240	3 paths	A	**3RS17 06-1FW00**		1	1 unit	101	0.090
Switchable multi-range converters, active, with manual/automatic switch and single potentiometer as manual analog signal transmitter											
0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA, switchable	0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA, switchable	17.5	24	2 paths	A	**3RS17 25-1FD00**		1	1 unit	101	0.085
			24 ... 240	3 paths	A	**3RS17 25-1FW00**		1	1 unit	101	0.102

Input	Output	Width	Number of channels	Electrical isolation	DT	Screw terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
		mm									kg
Single interface converters, passive											
0/4 ... 20 mA	0/4 ... 20 mA	6.2	1	2 paths	A	**3RS17 20-1ET00**		1	1 unit	101	0.049
 3RS17 20-1ET00		12.5	1	2 paths	A	**3RS17 21-1ET00**		1	1 unit	101	0.059
			2	2 paths	A	**3RS17 22-1ET00**		1	1 unit	101	0.070

*** You can order this quantity or a multiple thereof.**

3RS17 interface converters

All converters except the passive single interface converters have a yellow LED for indicating "Power on".

Input	Output	Width	Rated control supply voltage U_s	Electrical isolation	DT	Spring-loaded terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
		mm	V AC/DC								kg
Single interface converters, active											
0 ... 10 V	0 ... 10 V	6.2	24	2 paths	A	**3RS17 00-2AD00**		1	1 unit	101	0.047
	0 ... 20 mA	6.2	24	2 paths	A	**3RS17 00-2CD00**		1	1 unit	101	0.047
	4 ... 20 mA	6.2	24	2 paths	A	**3RS17 00-2DD00**		1	1 unit	101	0.047
0 ... 20 mA	0 ... 10 V	6.2	24	2 paths	C	**3RS17 02-2AD00**		1	1 unit	101	0.047
	0 ... 20 mA	6.2	24	2 paths	A	**3RS17 02-2CD00**		1	1 unit	101	0.045
	4 ... 20 mA	6.2	24	2 paths	A	**3RS17 02-2DD00**		1	1 unit	101	0.048
4 ... 20 mA	0 ... 10 V	6.2	24	2 paths	A	**3RS17 03-2AD00**		1	1 unit	101	0.047
	0 ... 20 mA	6.2	24	2 paths	C	**3RS17 03-2CD00**		1	1 unit	101	0.049
	4 ... 20 mA	6.2	24	2 paths	A	**3RS17 03-2DD00**		1	1 unit	101	0.047
Switchable multi-range converters, active											
0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA, switchable	0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA, switchable	6.2	24	2 paths	A	**3RS17 05-2FD00**		1	1 unit	101	0.048
		17.5	24 ... 240	3 paths	A	**3RS17 05-2FW00**		1	1 unit	101	0.092
0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA, switchable	0 ... 50 Hz, 0 ... 100 Hz, 0 ... 1 kHz, 0 ... 10 kHz, switchable	6.2	24	2 paths	C	**3RS17 05-2KD00**		1	1 unit	101	0.047
		17.5	24 ... 240	3 paths	A	**3RS17 05-2KW00**		1	1 unit	101	0.092
Switchable universal converters, active, with 16 input ranges and 3 output ranges											
0 ... 60 mV, 0 ... 100 mV, 0 ... 300 mV, 0 ... 500 mV, 0 ... 1 V, 0 ... 2 V, 0 ... 5 V, 0 ... 10 V, 0 ... 20 V, 2 ... 10 V, 0 ... 5 mA, 0 ... 10 mA, 0 ... 20 mA, 4 ... 20 mA, +/-5 mA, +/-20 mA, switchable	0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA, switchable	17.5	24	2 paths	A	**3RS17 06-2FD00**		1	1 unit	101	0.078
				3 paths	A	**3RS17 06-2FE00**		1	1 unit	101	0.077
			24 ... 240	3 paths	A	**3RS17 06-2FW00**		1	1 unit	101	0.094
Switchable multi-range converters, active, with manual/automatic switch and single potentiometer as manual analog signal transmitter											
0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA, switchable	0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA, switchable	17.5	24	2 paths	A	**3RS17 25-2FD00**		1	1 unit	101	0.078
			24 ... 240	3 paths	A	**3RS17 25-2FW00**		1	1 unit	101	0.095

3RS17 05-2FD00

3RS17 25-2FD00

Input	Output	Width	Number of channels	Electrical isolation	DT	Spring-loaded terminals Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
		mm									kg
Single interface converters, passive											
0/4 ... 20 mA	0/4 ... 20 mA	6.2	1	2 paths	A	**3RS17 20-2ET00**		1	1 unit	101	0.044
		12.5	1	2 paths	A	**3RS17 21-2ET00**		1	1 unit	101	0.057
			2	2 paths	A	**3RS17 22-2ET00**		1	1 unit	101	0.066

*** You can order this quantity or a multiple thereof.**

Notes