DIN-RAIL PANEL PRODUCTS

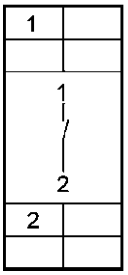
Switches

ON/OFF SWITCH 1-POLE
16 A 250 V~

1 M

	ITEM NO.	WEIGHT g / EACH	PACKING UNIT
1NO	**AS161**	55	12

AS161

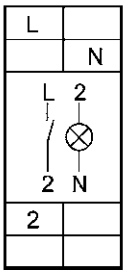


ON/OFF SWITCH 1-POLE
WITH LIGHT SIGNAL
16 A 250 V~

1 M

	ITEM NO.	WEIGHT g / EACH	PACKING UNIT
1NO	**ASL161**	55	12

ASL161

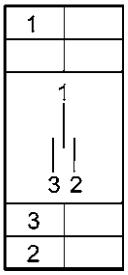


GROUP SWITCH 1-POLE
16 A 250 V~
Autom.-Off-Manual

1 M

	ITEM NO.	WEIGHT g / EACH	PACKING UNIT
1CO	**GS161**	55	12

GS161

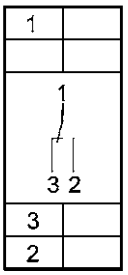


CO SWITCH 1-POLE
16 A 250 V~

1 M

	ITEM NO.	WEIGHT g / EACH	PACKING UNIT
1CO	**WS161**	55	12

WS161



DIN-RAIL PANEL PRODUCTS

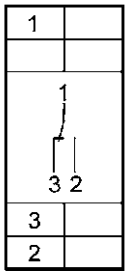
Button, light signals and SCHUKO socket outlet

MOMENTARY-CONTACT SWITCH
16 A 250 V~

1 M

	ITEM NO.	WEIGHT g / EACH	PACKING UNIT
1CO	**WT161**	55	12

WT161



LIGHT SIGNAL 230 V UC

1 M

	ITEM NO.	WEIGHT g / EACH	PACKING UNIT
Clear	**RST230**	73	12
Red	**RSR230**	73	12
Blue	**RSB230**	73	12
Green	**RSG230**	73	12
Yellow	**RSY230**	73	12

ON/OFF SWITCH 3-POLE 415 V~

Incoming circuit breaker for circuit distribution board, lockable in the "ON" or "OFF" position, maximum connection cross section 25 mm^2

3 M

RATED CURRENT	ITEM NO.	WEIGHT g / EACH	PACKING UNIT
63 A	**AS63**	200	4
100 A	**AS100**	200	4

SCHUKO SOCKET OUTLET SCHUKO®
10/16 A 250 V~

2.5 M

	ITEM NO.	WEIGHT g / EACH	PACKING UNIT
	SD230	110	4

DIN-RAIL PANEL PRODUCTS

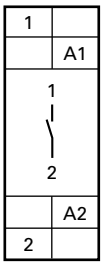
Installation relays / storage relays mechanical

INSTALLATION RELAY
16 A 250 V~
1-pole 1NO

1 M

	ITEM NO.	WEIGHT g / EACH	PACKING UNIT
12 V~	**IR01210**	99	12
230 V~	**IR23010**	99	12

IR...10

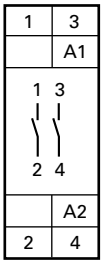


INSTALLATION RELAY
16 A 250 V~
2-pole 2NO

1 M

	ITEM NO.	WEIGHT g / EACH	PACKING UNIT
230 V~	**IR23020**	104	12

IR...20

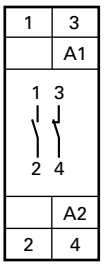


INSTALLATION RELAY
16 A 250 V~
2-pole 1NO + 1NC

1 M

	ITEM NO.	WEIGHT g / EACH	PACKING UNIT
230 V~	**IR23011**	106	12

IR...11

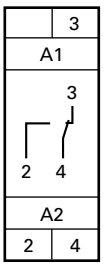


STORAGE RELAY
sealable
16 A 250 V~
1 CO contact

1 M

	ITEM NO.	WEIGHT g / EACH	PACKING UNIT
230 V~	**SP2301W**	85	12

SP2301W



DIN-RAIL PANEL PRODUCTS

Installation relays / storage relays mechanical

Installation relay / Storage relay mechanical		
Technical data / type	**IR**	**SP2301W**
Contact material	$AgSnO_2$	
Contact interval	3 mm / 2 mm	
Interval control connections / contact	> 6 mm	
Test voltage contact / contact contact / magnet system	2000 V 4000 V	
Nominal switching capacity AC 250 V, 400 V	16 A, 10 A / 10 A, 6 A	16 A / 250 V 3520 VA
Incandescent lamps and halogen lamp load 230 V	10 A (2300 W)	
Fluorescent lamp load in DUO switching	16 A (3500 W) / 10 A (2000 W)	
Fluorescent lamp load inductive or capacitive	10 A (1300 W)	
Electronic ballasts	I_{on} 140 A 10 ms / 70 A 10 ms [1]	
Fluorescent lamp load compensated in parallel	4 A (500 W)	
Inductive load cos φ = 0.6 / 230 V AC	10 A (1300 W)	
High-pressure mercury lamp and metal halide lamp, uncompensated	500 W	
Contact load DC max.	100 W	
Mechanical endurance, change of position 10^3 / h	$>10^6$	$>10 \times 10^8$
Endurance with rated load, cos φ = 1 and 10^3 / h	$>10^5$	
Endurance with incandescent lamps 1000 W and 10^3 / h	$>10^5$	
Endurance with rated load, cos φ = 0.6 und 10^3 / h	$>4 \times 10^4$	
Switching frequency max.	10^3 / h	10^4 / h
Closing delay	10 - 20 ms	10 ms
Opening delay	5 - 15 ms	5 ms
Switch position display	per contact	Light emitting diode
Manual operation	yes	no
Switch-on duration	100% [2]	100%
Temperature at the installation location max. / min.	+50° / -5 °C	+40 °C
Control voltage range	0.9 to 1.1 x U_n	0.95 to 1.06 x U_n
Coil power loss AC + DC ± 20 %	1- and 2-pole 2 W	1.9 W
Total power loss when continually excited Rated voltage and rated contact load	1-pole 4 W 2-pole 6 W	1.9 W
Max. parallel capacitance (length) of the control line	0.06 µF (200 m)	
Max. induction voltage at the control inputs	0.2 x U_n	

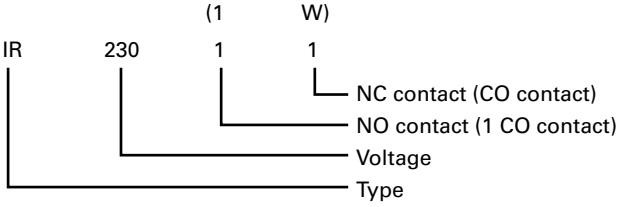
1) For electronic ballasts, a switch-on current 40 times more powerful is to be expected.
2) Should several remote switches and installation relays be under continuous excitation, please make sure that there is sufficient ventilation in accordance with the power loss calculation and additionally that a ventilation interval of approx. ½ modules is observed.

Function description:

IR = Installation relay
SP = Storage relay

Type key

e.g. installation relay
Item No. IR23011



DIN-RAIL PANEL PRODUCTS

Electronic control relays

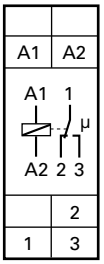
CONTROL RELAYS

10 A / 250 V
1 CO contact
Universal control voltage
8 – 230 V

1 M

	ITEM NO.	WEIGHT g/EACH	PACKING UNIT
8 to 230 V UC	**STU1W**	58	1

STU1W



Bistable relay contact
After installation, the mains voltage must first be applied to the relay so that the switching contacts can go into a defined state.
After about 2 seconds, the switched load can be connected to the mains.

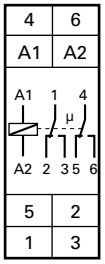
CONTROL RELAYS

10 A / 250 V
2 CO contacts
Universal control voltage
8 – 230 V

1 M

	ITEM NO.	WEIGHT g/EACH	PACKING UNIT
8 to 230 V UC	**STU2W**	74	1

STU2W



Bistable relay contact
After installation, the mains voltage must first be applied to the relay so that the switching contacts can go into a defined state.
After about 2 seconds, the switched load can be connected to the mains.

Electronic control relays	
Technical data / type	**STU1W / STU2W**
Contacts	
Contact material / Contact interval	$AgSnO_2$ / 0.5 mm
Interval control connections / contact	< 6mm
Interval control connections C1-C2 / contact	
Test voltage contact / contact	1000 V
Test voltage control connections / contact	4000V
Nominal switching capacity AC	10A / 250V
Incandescent lamps and halogen lamp load 230 V for lamps with max. 200 W	1000 W
Fluorescent lamp load in DUO switching	1000 W
Fluorescent lamp load inductive or capacitive	1000 W
Fluorescent lamp load compensated in parallel	4 A; 500 W
High-pressure mercury lamp and metal halide lamp, uncompensated	–
Electronic ballasts	I_{VV} max. 70A /10ms [1]
Inductive load cos φ = 0.6 / 230 V AC	5 A, 650 W
Max. switching current DC1: 12 V / 24 V DC	8 A
Endurance with rated load, cos φ = 1 or incandescent lamps 1,000 W at 100 / h	> 10^5
Endurance for rated load, cos φ = 0.6 und 100 / h	> 4 x 10^4
Switching frequency max.	10^4 / h
Closing delay	5 - 10 ms
Opening delay	5 - 10 ms
Switch position display	Light emitting diode
Box terminal cross section	12 mm^2
Maximum cross section of a conductor	6 mm^2
Screw heads slotted/cross slot	pozidriv
Protection cover (device side)	DIN EN 50274, VDE 0660-514 BGV A3
Electronics	
Switch-on duration	100%
Temperature at the installation location max. / min.	+50 °C / -20 °C
Minimum command duration / control voltage area	50 ms / 0.9 to 1.1 x U_n
Coil power loss AC+DC ± 20%	1U 0.5 W, 2U 0.8 W
Control current	
	12 V UC: 90 mA [2]
	230 V UC 20 mA [2]
Max. parallel capacity (length) of the control line	0.06 µF (approx. 200 m)

Fulfilled EN 61000-6-3, EN 61000-6-1 and EN 60669 standards
1) For electronic ballasts, a switch-on current 40 times more powerful is to be expected
2) Control relays STU1W and STU2W are clocked. From this, currents of up to 1 A result in the µs range.

DIN-RAIL PANEL PRODUCTS

Mechanical remote switches

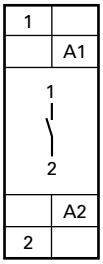
REMOTE SWITCH

16 A 250 V~
1-pole 1NO

1 M

	ITEM NO.	WEIGHT g / EACH	PACKING UNIT
12 V~	**FS01210**	96	12
230 V~	**FS23010**	96	12

FS...10



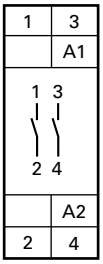
REMOTE SWITCH

16 A 250 V~
2-pole 2NO

1 M

	ITEM NO.	WEIGHT g / EACH	PACKING UNIT
230 V~	**FS23020**	107	12

FS...20



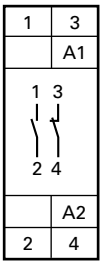
REMOTE SWITCH

16 A 250 V~
2-pole 1NO + 1NC

1 M

	ITEM NO.	WEIGHT g / EACH	PACKING UNIT
230 V~	**FS23011**	107	12

FS...11



DIN-RAIL PANEL PRODUCTS

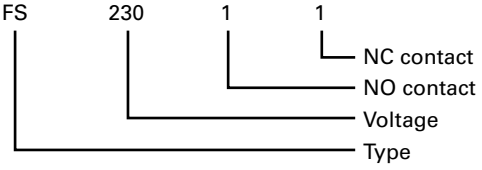
Mechanical remote switches

Mechanical remote switches	
Technical data / type	**FS**
Contact material	Ag Sn O_2
Contact interval	3 mm / 2 mm
Interval control connections / contact	> 6 mm
Test voltage contact / contact contact / magnet system	2000 V 4000 V
Nominal switching capacity AC 250 V, 400 V	16 A, 10 A / 10 A, 6 A
Incandescent lamps and halogen lamp load 230 V	10 A (2300 W)
Fluorescent lamp load in DUO switching	16 A (3500 W) / 10 A (2000 W)
Fluorescent lamp load inductive or capacitive	10 A (1300 W)
Electronic ballasts	I_{on} 140 A 10 ms / 70 A 10 ms [1]
Fluorescent lamp load compensated in parallel	4 A (500 W)
Inductive load cos φ = 0.6 / 230 V AC	10 A (1300 W)
High-pressure mercury lamp and metal halide lamp, uncompensated	500 W
Contact load DC max.	100 W
Mechanical endurance, change of position 10^3 / h	$>10^6$
Endurance with rated load, cos φ = 1 und 10^3 / h	$>10^5$
Endurance with incandescent lamps 1000 W and 10^3 / h	$>10^5$
Endurance with rated load, cos φ = 0.6 and 10^3 / h	$>4 \times 10^4$
Switching frequency max.	10^3 / h
Switch position display	per contact
Manual operation	yes
Switch-on duration	100% [2]
Temperature at the installation location max. / min.	+50° / -5 °C
Control voltage range	0.9 to 1.1 x U_n
Coil power loss AC + DC ± 20%	1- and 2-pole 5 - 6 W
Total power loss when continually excited Rated voltage and rated contact load	1-pole 7 - 8 W 2-pole 9 - 10 W
Max. parallel capacity (length) of the control line	0.06 µF (200 m)
Max. induction voltage at the control inputs	0.2 x U_n
Glow lamps parallel to the 230 V control buttons	5 mA
With capacitor 1 µF / 250 V AC parallel to the coil	10 mA
With capacitor 2.2 µF / 250 V AC parallel to the coil	15 mA

1) For electronic ballasts, a switch-on current 40 times more powerful is to be expected.
2) If several remote switches and installation relays are under continuous excitation, please make sure that there is sufficient ventilation in accordance with the power

Function description:
FS = Remote switch

Type key
e.g. remote switch
Item No. FS23011



DIN-RAIL PANEL PRODUCTS

Remote switch central electronic control

REMOTE SWITCH CENTRAL CONTROL
16 A / 250 V
2 NO floating
Incandescent lamp load 2,000 W

1 M

	ITEM NO.	WEIGHT g/EACH	PACKING UNIT
8 to 230 V UC	**FZU20**	70	12

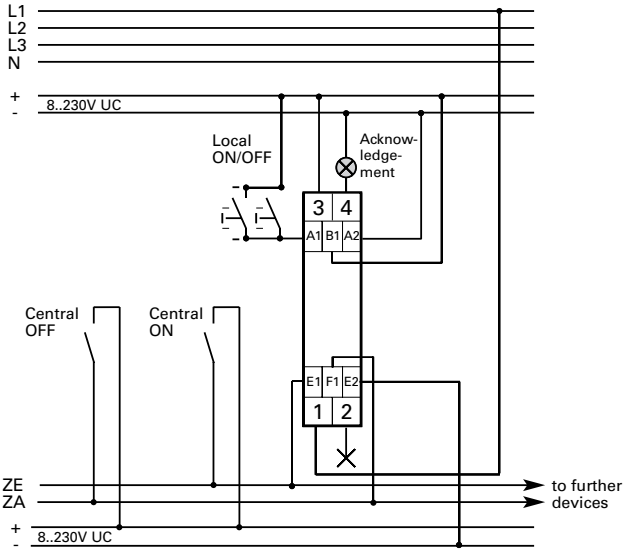
FZU20 – Local Universal Control Voltage 8...230V UC

With additional control inputs, central on and central off for 8..230V UC, with galvanic separation from the local control input.
Very low switching noise. Glow lamp current from 110 V control voltage up to 50 mA in switch positions 1 to 3 and 5 to 7.

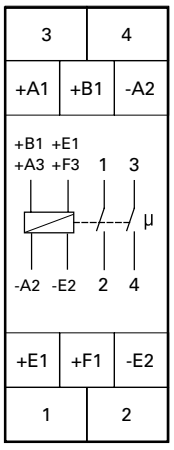
A rotary switch allows for setting various priorities.
These determine which other control inputs are blocked **as long as a control input is continually excited.**
This will then determine how the remote switch reacts **during failure and subsequent return of mains voltage:**
In switch positions 1 to 4 the switching position remains unaltered.
Switch off is done in switch positions 5 to 8.
Central commands pending will then be executed.

OFF = Permanently OFF
Positions 1 + 5 = No priority. Local button pressing is even possible with permanently excited central control inputs. The final central command is carried out.
Positions 2 + 6 = Priority for central ON and OFF. Local button pressing is without any effect for the duration central OFF, however, has priority over central ON
Positions 3 + 7 = Priority for central ON and OFF. Local button pressing is without any effect for the duration central ON, however, has priority over central OFF.
Positions 4 + 8 = Priority for the permanently excited local button. Central commands are not carried out for the duration. Glow lamp current is not permitted in these positions.
ON = Continuously ON

Switching example of electronic impulse switch for central control

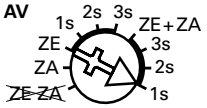


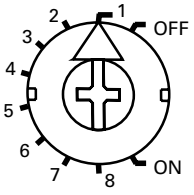
FZU20



Function rotary switch

~~**ZE ZA**~~ = no central control
ZA = only central control OFF
ZE = only central control ON + response delay 0, 1, 2 or 3 seconds
ZE ZA = central control ON and OFF + response delay 0, 1, 2 or 3 seconds





Electronic remote switch	
Technical data / type	**FZU20**
Contacts	
Contact material / Contact interval	$AgSnO_2$ / 0.5 mm
Interval control connections / contact	6 mm
Test voltage C1-C2 or A1-A2 / contact	4000 V
Test voltage contact / contact	4000 V
Test voltage control connections / contact	4000 V
Nominal switching capacity AC	16 A / 250 V
Incandescent lamps and halogen lamp load 230 V [1)]	2000 W
Fluorescent lamp load in (conventional ballast) DUO switching	1000 VA
Fluorescent lamp load in (conventional ballast) uncompensated or serially compensated	500 VA
Compact fluorescent lamps with electronic ballast and energy-saving lamps (ESL)	I_{ON} max. 70 A / 10 ms [2)]
Max. switching current DC1: 12 V / 24 V DC	8 A
Endurance with rated load, cos φ = 1 and incandescent lamps 1,000 W for 100 / h	$>10^5$
Endurance with rated load, cos φ = 0.6 at 100 / h	$>4 \times 10^4$
Switching frequency max.	10^3 / h
Maximum cross section of a conductor (3-fold terminal)	6 mm^2 (4 mm^2)
2 conductors with same cross-section (3-fold terminal)	2.5 mm^2 (1.5 mm^2)
Screw head	Slotted / cross slot pozidriv
Protection cover (device side)	DIN EN 50274, VDE 00660-514 BGV A3

Electronics	
Switch-on duration (also for central ON/OFF)	100%
Temperature at the installation location max. / min.	+50 °C / -20 °C
Stand-by loss (active power) 230 V	0,4 W
Stand-by loss (active power) 12 V / 24 V	0.03 W / 0,06 W
Control current Universal control voltage all control voltages (< 5 s) ± 20%	
Control current Universal control voltage 8/12/24/230 V (<10 s) ± 20%	0.1 / 0.1 / 0.2 /1 / (30) mA
Control current Central 8/12/24/230 V (<10 s) ± 20%	2 / 4 / 9 / 5 / (100) mA
Max. parallel capacitance (length) of the central control line for 230 V AC	0.3 µF (1000 m)
Max. parallel capacitance (length) of the central control line for 230 V AC	0.9 µF (3000 m)

Fulfilled EN 50081-1, EN 50082-2 and EN 60669 standards
Bistable relay as NOC. Wait for short automatic synchronisation after installation before applying the switched load to the mains.
1) For lamps with max. 150 W
2) For electronic ballasts, a switch-on current 40 times more powerful is to be expected

DIN-RAIL PANEL PRODUCTS

Touch dimmer

TOUCH DIMMER

Universal control voltage
8 to 230 V UC,
R, L and C loads 400 W
Dimmable ESL 100 W
Dimmable LED, 230 V 100 W

1 M

	ITEM NO.	WEIGHT g/EACH	PACKING UNIT
	TDU500	96	1

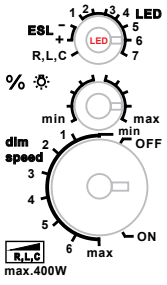
Electronic universal touch dimmer for R, L and C loads
Universal control voltage 8..230 V UC, galvanically separated from supply and switching voltage 230 V.
Short control commands switch on/off, permanent activation adjusts brightness up to the maximum value.
A brief interruption of the activation alters the dimming direction.
The set level of brightness remains saved when switched off.

With switches for children's rooms:
When switching on and pressing the button for at least 1 second, the light will switch on at the lowest brightness level and slowly increase brightness, without altering the last brightness level saved.

With sleep function:
The lighting is dimmed from its current brightness and switches off when it receives a double impulse. The maximum dimming time of 60 minutes is dependent on the current brightness and can be shortened accordingly.
Switching-off during the dimming procedure is always possible by pressing the button briefly. Pressing the button for a longer time during the dimming procedure turns up the light and ends the sleep function.

Defined switch-off during electricity failure.
From 110 V control voltage, glow lamp current 30 mA
With the **% ☼ -rotary switch** the minimum brightness can be set (completely dimmed) e.g. for dimmable energy-saving lamps.

Function
Rotary switch



The **dim speed rotary switch** can be used to set the dimming speed. At the same time the duration of the soft ON and soft OFF is altered. The **+ESL** settings take into consideration the special conditions for dimmable energy-saving lamps: The switching-on procedure is optimised and the dimming rate is altered logorithmically. The children's room switch is not possible in these settings and wound (inductive) transformers are not allowed to be dimmed.

Memory is switched off in the **–ESL** setting. This can be advantageous with ESL, since cold ESL require a higher minimum brightness than might be stored in the memory with warm ESL.

The **LED** settings take into account the special conditions for dimmable 230V LED lamps. Different dimming curves can be selected. In these settings, no wound (inductive) transformers may be dimmed.

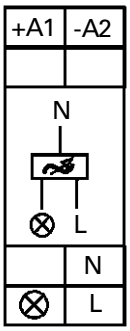
Automatic electronic overload protection and thermal overload switch-off.

L loads (inductive loads, e.g. wound transformers) and C loads (capacitor loads, e.g. electronic transformers) must not be mixed.
L and C loads can be mixed as desired with R loads (ohmic loads, e.g. 230 V incandescent and halogen lamps).

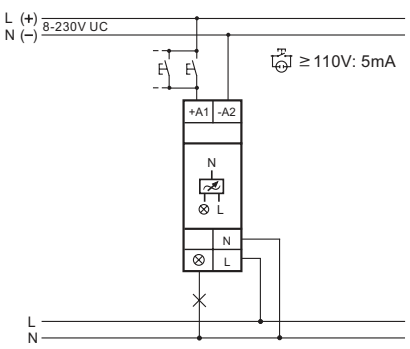
Technical data for dimmer TDU500 [1]	
Incandescent lamps 230 V (R)	400 W
Halogen lamps 230 V (R)	400 W
Inductive transformers (L)	400 W [2] [3]
Electronic transformers (C)	400 W [2] [3]
Dimmable energy-saving lamps ESL	100 W [4]
Dimmable LED 230 V	100 W
Temperature at the installation location max. / min.	+50 °C / -20 °C [5]
Control voltage area	0.9 bis 1.1 x U_n
Constant current supply	12 mA

The parallel operation of inductive (wound) and capacitive (electronic) transformers is not allowed!

1) For loads greater than 300 W, a ventilation interval of 1/2 module is to be maintained to devices mounted next to each other.
2) A maximum of two inductive (wound) transformers are allowed per universal dimmer switch and only the same types may be used; in addition, secondary-side idling is not allowed. Otherwise the universal dimmer switch may be destroyed! Therefore no secondary-side load switch-off allowed.
3) When calculating loads, 20% loss for inductive (wound) transformers and 5% loss for capacitive (electronic) transformers must be taken into account in addition to the lamp load.
4) In the ESL settings, no inductive (wound) transformers may be dimmed.
5) Influences the maximum switching capacity.



Connection example



DIN-RAIL PANEL PRODUCTS

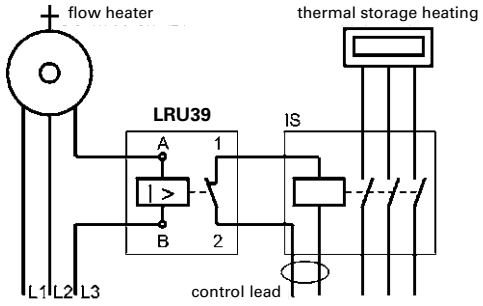
Load shedding relays

LOAD SHEDDING RELAYS

sealable
for electronically and pneumatically regulated flow heaters

1 M

	ITEM NO.	WEIGHT g/EACH	PACKING UNIT
6,7-39 A	**LRU39**	90	12



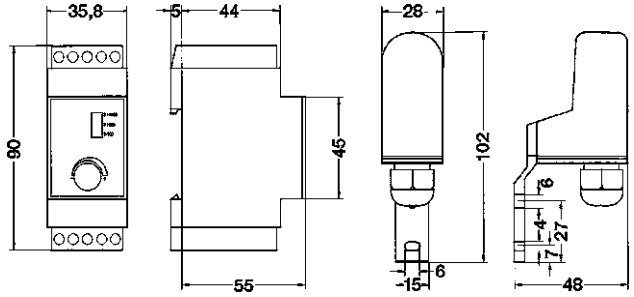
Load shedding relays			
Technical data / type	**LRU39 for electronic and pneumatic flow heaters**		
Field coil			
Rated current area AC	6.7 ... 39 A	Response current AC	< 5.3 A
Rated power for 230 V AC	1.5 ... 9 KW / 230 V~	Max. continuous current AC	43 A
Rated power for 230 / 400 V AC	4.6 ... 27 KW / 400 V~	Constant thermal load capacity 40 °C	2.5 W
Operating / rated power	0.5 ... 4 VA	Connection terminal single wire	2.5 mm^2 – 16 mm^2
		Connection terminal multiple wire	2.5 mm^2 – 16 mm^2
Relay contact			
Contact	1 NC	Max. electrical switching frequency / h	approx. 1,800 switching cycles / h
Rated contact current for 250 V AC	1 A	Max. ambient temperature	40 °C
Contact material	Hard silver gold-flashed	Response time / release time	10... 20 ms / 20 ... 30 ms
Max. switching voltage AC	400 V	Volume resistance	approx. 3 mΩ
Max. switching capacity	250 VA	Test voltage contact / coil AC	2.5 KV
Max. switch-on peak current	5 A	Isolation group acc. to VDE 0110	C / 250 V
Electric endurance with rated load	>100,000 switching cycles	Protection type housing	IP40
Mechanical endurance	approx. 1 million switching cycles	Connection terminal single wire	0.75 mm^2 – 4 mm^2
Switch-on duration	100%	Connection terminal multiple wire	0.75 mm^2 – 4 mm^2

DIN-RAIL PANEL PRODUCTS
Twilight switch

TWILIGHT SWITCH
WITH SEPARATE LIGHT COLLECTOR
230 V~, 50 … 60 Hz
16 A, 1 CO contact

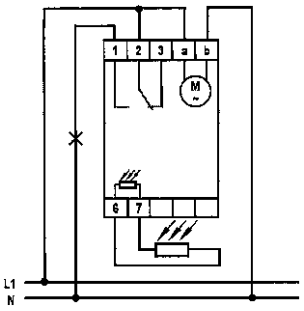
2 M

	ITEM NO.	WEIGHT g / EACH	PACKING UNIT
	DS2301W	230	1



Twilight switch DS2301W	
Technical data	
Light intensity Area 1 Area 2 Area 3	2 -100 Lux 2 -1000 Lux 2 -10 000 Lux
Delay when switching on	8 sec.
Delay when switching off	38 sec.
Contact material	AgCdO
Contact interval	< 3 mm
Interval control connections / contact	5 mm
Rated insulation voltage contact / contact contact / magnet system	1 KV 4 KV
Switching capacity AC	16 A / 250 V cos φ =1
Incandescent lamp load	2300 W
Inductive load cos φ = 0.8	3 A / 250 V
Mechanical endurance, change of position	5 x 10^7
Endurance with rated load, cos φ = 1 and 10^3 / h	10^5
Endurance with incandescent lamps 1000 W and 10^3 / h	25 x 10^3
Endurance with rated load, cos φ = 0.6 und 10^3 / h	75 x 10^3
Switch position display relay	LED red
Switch position display switch point	LED green
Switch-on duration	100%
Temperature at the installation location min. / max.	0 °C to 55 °C
Total power loss during continuous excitation	2.2 W
Degree of protection	IP20
Protection type light collector	IP65
Max. cable length to light collector	100 m

Wiring diagram:
Twilight switch
with separate light collector



DIN-RAIL PANEL PRODUCTS

Time relays and multi-function time relays

MULTI-FUNCTION TIME RELAYS

16 functions
1 CO contact 10 A / 250 V~
Time range 0.1 sec. - 40 hrs

1 M

	ITEM NO.	WEIGHT g / EACH	PACKING UNIT
8 V to 230V UC	**MRU1W**	75	10

TIME RELAYS

1 CO contact 10 A / 250 V~
Time range 0.1 sec. - 40 hrs

1 M

	ITEM NO.	WEIGHT g / EACH	PACKING UNIT
8 V to 230V UC	**AVU1W**	75	1
	RVU1W	75	1

Function description MRU1W
Stand-by loss only 0.1 Watt
Depending on the connection for the electricity supply to terminal B1 or B2, **two different function levels can be selected:**

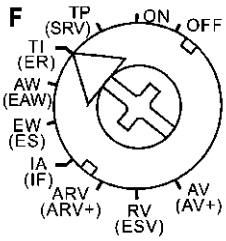
Function level 1 for connection of electricity supply to B1-A2

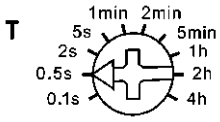
RV = Release delay
AV = Response delay
TI = Clock generator starting with impulse
TP = Clock generator starting with pause
IA = Impulse-controlled response delay
EW = Passing make contact

AW = Passing break contact
ARV = Response and release delay
ON = Continuously ON
OFF = Permanently OFF

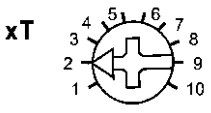
Function level 2 for connection to electricity supply to B2-A2

ER = Relay function
EAW = Passing make and break contact
Er S = Impulse switch function
IF = Impulse former
ARV+ = Additive response and release delay
ESV = Impulse switch with release delay and Pre-warning of switch-off
AV+ = Additive response delay
SRV = Impulse switch with release delay
ON = Continuously ON
OFF = Permanently OFF



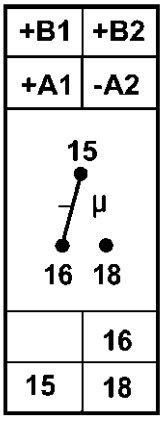


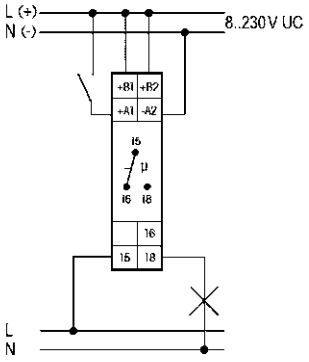
The time base T
is set for latching rotary switches [T]. There is a choice between the base values 0.1 seconds, 0.5 seconds, 2 seconds, 5 seconds, 1 minute, 2 minutes, 5 minutes, 1 hour, 2 hours and 4 hours.
The total time is calculated from the time base multiplied by the multiplier.



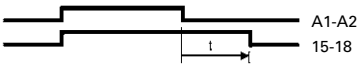
The multiplier x T
is set with the latching rotary switch [xT] and is between 1 and 10. This makes it possible to set times between 0.1 seconds (time base 0.1 seconds and multiplier 1) and 40 hours (time base 4 hours and multiplier 10).

Light emitting diode
under the large rotary switch provides information about the contact position during the time period.
It blinks as long as NOC 15 -18 is open (15 -16 closed) and glows continuously as long as NOC 15 -18 is closed (15-16 open).



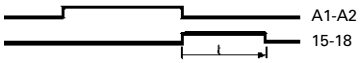


RV = Release delay
(Delay in switching off)



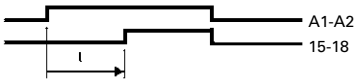
When applying control voltage, the NOC changes to 15–18. With the interruption of the control voltage, the time period begins and at its end the NOC returns to its rest position. Can be reset during the time period.

AW = Passing break contact relay



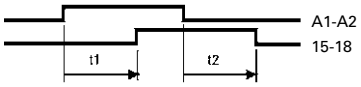
When the control voltage is interrupted, the NOC changes to 15–18 and returns after the impulse time has elapsed. If the control voltage is applied during the impulse time, the NOC immediately reverts to its rest position and the residual time is deleted.

AV = Response delay
(Delay when switching on)



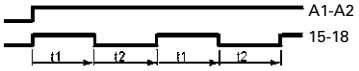
With the application of the control voltage, the time period begins and at its end the NOC changes to 15–18. After an interruption, the time period starts again.

ARV = Response and release delay



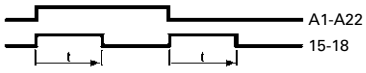
When the control voltage is applied, the timing period is started; at its end the NOC changes to 15–18. If the control voltage is interrupted after this, another timing period is started; at its end the NOC returns to the rest position. This release delay is identical to the response delay. After an interruption of the response delay, the time period begins again.

TI = Clock generator starting with impulse



As long as the control voltage is applied, the NOC closes and opens. For MRU1W the switching time in both directions is identical and corresponds to the time set. For TIUMW both times can be set separately. When the control voltage is applied, the NOC immediately changes to 15–18.

EAW = Passing make contact relay and passing break contact relay

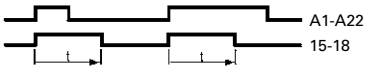


When the control voltage is applied and interrupted, the NOC changes to 15–18 and returns after the set impulse time has elapsed.

TP = Clock generator starting with pause
(Flashing relay)

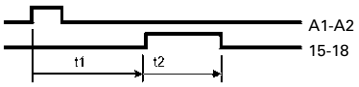
Function descriptions same as TI, except that when the control voltage is applied, the contact does not change to 15–18 but rather first remains at 15-16 or open.

IF = Impulse former



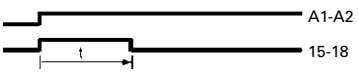
When the control voltage is applied, the NOC changes to 15–18 for the time set. Further activations are only evaluated after the set time has elapsed.

IA = Impulse-controlled response delay



With the start of a control pulse from 20 ms, the timing period t1 starts; at its end, the NOC changes to 15–18 for the time t2 (=1 second) (e.g. for automatic door openers). If t1 is set to the shortest time of 0.1 seconds, IA operates as an impulse former, for which t2 elapses, independent of the control signal's duration (min. 150ms).

EW = Passing make contact relay



With the application of the control voltage, the NOC changes to 15–18 and returns after the impulse time. If the control voltage is removed during the impulse time, the NOC immediately returns to the rest position and the remaining time is deleted.

ARV+ = Additive response and release delay
Same function as the ARV, but after an interruption of the response delay, the elapsed time remains stored.

ESV = Impulse switch with release delay and pre-warning of switch-off
Function as SRV. Also with pre-warning of switch-off: approx. 30 sec. before time elapses, the light flickers 3 times in shorter and shorter periods.

AV+ = Additive response delay
Same function as the AV, but after an interruption, the time already elapsed remains stored.

SRV = Impulse switch with release delay
The NOC switches back and forth with control impulses from 50 ms. In contact position 15-18, the device automatically switches to the rest position after the delay time has elapsed.

Time relays and multi-function relays	
Technical data / type	**MRU1W / AVU1W / RVU1W**
Switch-on duration	100%
Temperature at the installation location max. / min.	+50 °C / -20 °C
Contact material / contact interval	$AgSnO_2$ / 0.5 mm
Interval control connections / contact	3 mm
Test voltage contact / contact	1000 V
Test voltage control connections / contact	2000 V
Nominal switching capacity AC	10 A / 250 V
Incandescent lamps and fluorescent lamps, inductive or capacitive	1000 W
Fluorescent lamps in DUO switching	1000 W
Fluorescent lamps compensated in parallel	500 W
Electronic ballasts	I_{on} max 70 A / 10ms 2)
Inductive load cos φ = 0.6 / 230 V AC	650 W
Max. switching current DC 1 (not for NP type): 12 V / 24 V DC	8 A
Endurance with rated load, cos φ = 1 and incandescent lamps 1000 W for 100 / h	$>10^5$
Endurance with rated load, cos φ = 0.6 bei 100 / h	$>4 \times 10^4$
Temperature dependency	<0,2% each °C
Repetition accuracy at 25 °C	± 0,1%
Setting accuracy from 1 minute	± 0,2%
Control voltage dependency between 0.8 and 1.1 x U_n	none
Bridging time during mains failures (then total reset)	min. 0.2 seconds
Control current 12 V / 230 V ± 20%	0.05 / 0.9 mA
Control current 12 V DC / 230 V DC ± 20%	0.09 / 1.7 mA
Power consumption continuous electricity supply 12 V / 230 V UC relay OFF	0.02 / 0.4 W
Power consumption continuous electricity supply 12 V / 230 V UC relay ON	0.3 / 1.0 W 3)
Max. parallel capacity (length) of the control lines for 230 V	0.2 µF (approx. 600 m)
Protection cover (device side)	DIN EN 50274, VDE 0660-514 BGV A3
Box terminal cross section	12 mm^2
Maximum cross section of a conductor	6 mm^2
Screw head	Slotted / cross slot pozidriv

Meets VDE0435, EN 61000-6-3, EN 61000-6-1 and EN 60669 standards

1) Only with constant mains voltage >110 V and only when “relay on” for more than 60 minutes, is it necessary to maintain a ventilation interval of 1/2 module on both sides. If required, use the distance device. For 230 V AC, a capacitor 0.33 µF / 250 V in series with B1 is also sufficient.

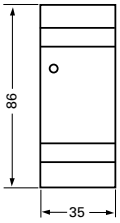
2) For electronic ballasts, a switch-on current 40 times more powerful is to be expected.

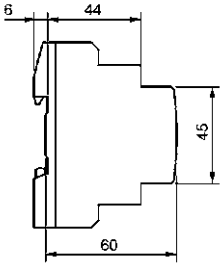
DIN-RAIL PANEL PRODUCTS
Mains monitoring

MAINS MONITORING
NW1
NWA1 asymmetrical monitoring
UAB 154 V, UAN 198 V

2 M

	ITEM NO.	WEIGHT g / EACH	PACKING UNIT
1NO + 1NC	**NW1**	98	1
	NWA1	98	1

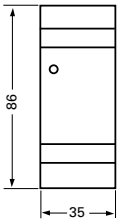


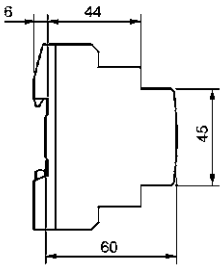


MAINS MONITORING
NW2
NWA2 asymmetrical monitoring
UAB 187 V, UAN 210 V

2 M

	ITEM NO.	WEIGHT g / EACH	PACKING UNIT
1S + 1Ö	**NW2**	98	1
	NWA2	98	1





Mains monitoring			
Technical data / type		**NW1 / NW2**	**NWA1 / NWA2**
Mains connection		1 - 3-phase 230 / 400 V	3-phase 230 / 400 V
Operational voltage		via L1-N 230 V AC	
Frequency		45…65 Hz	
Power consumption		5.5 VA	
Response / drop delay		0.15…0.5 sec.	
Input pulse amplitude max.	6 ms 20 ms	2.5 KV 1.0 KV	
Asymmetrical monitoring		none	10%
Back-up fuse		no / device inherently stable	
Relays			
Contact material		Ag Ni 0.15 + HV	
Contact interval		> 0.35	
Interval control connections / contact		15 mm	
Rated insulation voltage	contact / contact contact / magnet system	1000 V_{eff} 4000 V_{eff}	
Rated switching capacity		2000 VA	
Contact load DC max. (A)	24 V	8 A	
	60 V	1.8 A	
	110 V	0.4 A	
	220 V	0.3 A	
Minimum contact load		10 mA / 12 V	
Mechanical endurance		3 x 10^7	
Endurance with rated load, cos φ =1		100 000	
Endurance with rated load cos φ = 0.4		80 000	
Switching frequency max.		3000 / h	
Switch position display		LED	
Switch-on duration / switching safety		100%	
Temperature at the installation location max. / min.		-40 °C / + 70 °C	
Total power loss during constant excitation		0.55 VA	

DIN-RAIL PANEL PRODUCTS

Installation contactors

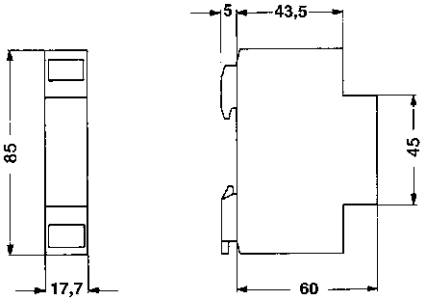
INSTALLATION CONTACTOR

20 A / 230 V AC

2-pole · Control voltage 230 V AC

1 M

	ITEM NO.	WEIGHT g / EACH	PACKING UNIT
2NO	**IS2020**	200	12
1NO 1NC	**IS2011**	200	12



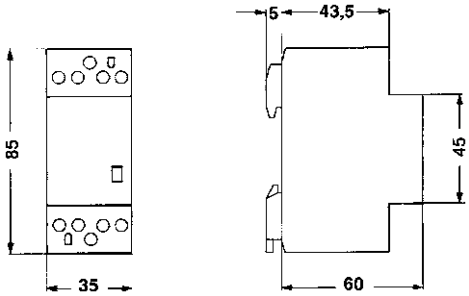
INSTALLATION CONTACTOR

25 A 230 / 400 V AC

4-pole · Control voltage 230 V AC

2 M

	ITEM NO.	WEIGHT g / EACH	PACKING UNIT
4NO	**IS2540**	280	6
2NO 2NC	**IS2522**	280	6
3NO 1NC	**IS2531**	280	6



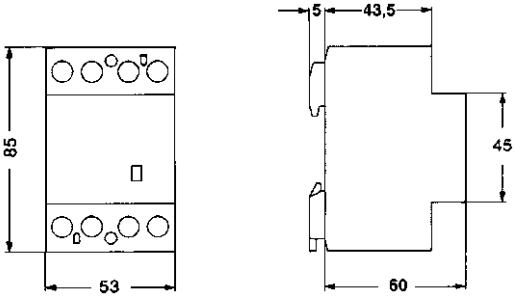
INSTALLATION CONTACTOR

40 A and 63 A 230 / 400 V AC

4-pole · Control voltage 230 V AC

3 M

	ITEM NO.	WEIGHT g / EACH	PACKING UNIT
4NO	**IS4040**	450	4
4NO	**IS6340**	450	4



AUXILIARY CONTACT

Continuous thermal current I_{th} = 6 A

Rated operating current I_e

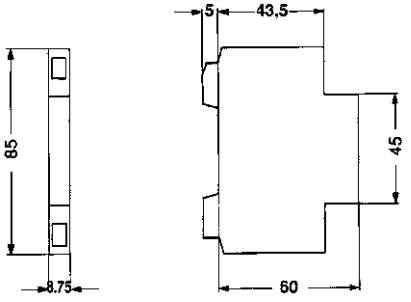
with AC-15 for U_e 240 V AC 3 A

415 V AC 2 A

440 V AC 1,6 A

½ M

	ITEM NO.	WEIGHT g / EACH	PACKING UNIT
1NO 1NC	**ISH11**	23	3



SEALING CAP

	ITEM NO.	WEIGHT g / EACH	PACKING UNIT
2 M	**ISP2**	2	10
3 M	**ISP3**	3	10

DISTANCE DEVICE 9MM

	ITEM NO.	WEIGHT g / EACH	PACKING UNIT
½ M	**ISD**	13	10

We recommend the use of distance devices at ambient temperatures higher than 40° C

Technical data acc. to IEC 60947-3, IEC 60947-5-1, VDE 0660, EN 60947-3, EN 60947-5-1

Main contact element types		**IS20..**	**IS25..**	**IS40..**	**IS63..**
Rated insulation voltage U_i	**V AC**	**440**	**440**	**440**	**440**
Rated operating voltage U_e	V AC	440	440	440	440
Allowed switching frequency z	AC1, AC3 1 / h	300	300	600	600
Mechanical endurance	S x 10^6	1	1	1	1

Usage category AC1

Rated operating current I_e (=I_{th}) open	at 60 °C A	20	25	40	63
Switching element endurance	S x 10^6	0.1	0.1	0.1	0.1
Power loss per pole for I_e / AC1	W	2	2	3	7

Usage category AC3 – Switching of three-phase motors

Rated operating current I_e	A	-	9	27	30
Rated power for 220 V	kW	-	2.2	7.5	8
Three-phase motors 230 - 240 V 50 - 60Hz 380 - 415 V	kW kW	-	2.5 4	8 12.5	8.5 15
Switching element endurance	S x 10^6	-	0.15	0.15	0.15

Magnetic coil

Magnetic coil output	Switching VA	7 - 9	14 - 18	33 - 45	33 - 45
Alternating current activation	Stop VA	2.2 - 4.2	4.4 - 8.4	7	7
	W	0.8 - 1.6	1.6 - 3.2	2.6	2.6

Magnetic coil operating areas					
Control voltage dependency U_S		0.85 - 1.1	0.85 - 1.1	0.85 - 1.1	0.85 - 1.1

Short circuit protection

Max. back-up fuse main circuits	gL (gG) / A	35	35	63	80
Switching times for control voltage U_S ±10%	Closing delay ms	7 - 16	9 - 15	11 - 15	11 - 15
	Opening delay ms	6 - 12	4 - 8	6 - 13	6 - 13
	Arc duration ms	10 - 15	10 - 15	10 - 15	10 - 15

Connection cross sections

Single or multiple wire main conductor	mm^2	1.5 - 10	1.5 - 10	2.5 - 25	2.5 - 25
Stranded wire	mm^2	1.5 - 6	1.5 - 6	2.5 - 16	2.5 - 16
Stranded wire with ferrule	mm^2	1.5 - 6	1.5 - 6	2.5 - 16	2.5 - 16
Number of clampable conductors per terminal		1	1	1	1
Coil single wire or multiple wire	mm^2	0.75 - 2.5	0.75 - 2.5	0.75 - 2.5	0.75 - 2.5
Stranded wire	mm^2	0.5 - 2.5	0.5 - 2.5	0.5 - 2.5	0.5 - 2.5
Stranded wire with ferrule	mm^2	0.5 - 1.5	0.5 - 1.5	0.5 - 1.5	0.5 - 1.5
Number of clampable conductors per terminal		1	1	1	1

Auxiliary contact ISH11

Rated insulation voltage U_i		V AC	440			
Thermal rated current = I_{th}	40 °C 60 °C	A A	10 6			
Usage category AC15						
Rated operating current I_e	220 - 240 V 380 - 415 V 440 V	A A A	3 2 1.6			
Usage category DC13						
Rated operating current I_e each pole	24 - 60 V 110 V 220 V	A A A	2 0.4 0.1			
Short-circuit protection						
Largest rated current of the fuses short-circuit current 1kA, without welding the contacts		gL (gG) / A	10			

DIN-RAIL PANEL PRODUCTS

Installation contactor IS – Switching of lamp loads

LAMP TYPE	OUTPUT Watt	CURRENT I_n / A	CAPACITOR µF	MAX. NUMBER OF LAMPS PER CONDUCTING PATH FOR 230 V 50 HZ AND MAX. 60 °C			
				IS20..	IS25..	IS40..	IS63..
Incandescent lamps	60	0,27	-	22	28	92	129
	100	0,45	-	13	17	55	77
	200	0,91	-	7	8	27	38
	300	1,36	-	4	5	19	26
	500	2,27	-	3	3	11	16
	1000	4,5	-	1	1	6	8
Fluorescent lamps Uncompensated or Serially compensated	11	0.16	1,3	60	75	210	310
	18	0.37	2,7	25	30	90	140
	24	0.35	2,5	25	30	90	140
	36	0.43	3,4	20	25	70	140
	58	0.67	5,3	14	17	45	70
	65	0.67	5,3	13	16	40	65
	85	0.8	5,3	11	14	35	60
Fluorescent lamps Duo switching	11	0.07	-	2 x 100	2 x 110	2 x 220	2 x 250
	18	0.11	-	2 x 50	2 x 55	2 x 130	2 x 200
	24	0.14	-	2 x 40	2 x 44	2 x 110	2 x 160
	36	0.22	-	2 x 30	2 x 33	2 x 70	2 x 100
	58	0.35	-	2 x 20	2 x 22	2 x 45	2 x 70
	65	0.35	-	2 x 15	2 x 16	2 x 40	2 x 60
	85	0.47	-	2 x 10	2 x 11	2 x 30	2 x 40
Fluorescent lamps Parallel compensation	11	0.09	2	30	43	67	107
	18	0.13	2	20	32	50	80
	24	0.16	3	15	32	50	80
	36	0.27	4	10	32	50	80
	58	0.45	7	6	18	36	46
	65	0.5	7	5	18	36	46
	85	0.6	8	4	18	33	44
Fluorescent lamps with electronic ballast	18	0.09	-	40	40	100	150
	36	0.16	-	20	20	50	75
	58	0.25	-	15	15	30	55
	2 x 18	0.17	-	2 x 20	2 x 20	2 x 50	2 x 60
	2 x 36	0.32	-	2 x 10	2 x 10	2 x 25	2 x 30
	2 x 58	0.49	-	2 x 7	2 x 7	2 x 15	2 x 20
Transformers for low-voltage halogen lamps	20	0.09	-	40	52	110	174
	50	0.22	-	20	24	50	80
	75	0.33	-	13	16	35	54
	100	0.43	-	10	12	27	43
	150	0.65	-	7	9	19	29
	200	0.87	-	5	5	14	23
	300	1.3	-	3	4	9	14
Mercury high-pressure lamps uncompensated e.g. high-pressure mercury lamp and metal halide lamp	50	0.61	-	16	21	38	55
	80	0.8	-	12	16	29	40
	125	1.15	-	8	11	20	28
	250	2.15	-	4	6	11	15
	400	3.25	-	3	4	7	10
	700	5.4	-	1	2	4	6
	1000	7.5	-	1	1	3	4
Mercury high-pressure lamps compensated e.g. high-pressure mercury lamp and metal halide lamp	50	0.28	7	7	18	36	50
	80	0.41	8	5	16	31	44
	125	0.65	10	3	13	25	35
	250	1.22	18	2	7	14	19
	400	1.95	25	1	5	10	14
	700	3.45	45	1	3	6	8
	1000	4.8	60	-	2	4	6

DIN-RAIL PANEL PRODUCTS

Installation contactor IS – Switching of lamp loads

LAMP TYPE	OUTPUT Watt	CURRENT I_n / A	CAPACITOR µF	MAX. NUMBER OF LAMPS PER CONDUCTING PATH FOR 230 V 50 HZ AND MAX. 60 °C			
				IS20..	IS25..	IS40..	IS63..
Metal halogen lamps uncompensated e.g. high-pressure mercury lamp and metal halide lamp, CDM	35	0.53	-	22	24	57	65
	70	1	-	12	14	30	35
	150	1.8	-	6	8	17	18
	250	3	-	4	5	10	12
	400	3.5	-	3	4	8	10
	1000	9.5	-	1	1	3	4
	2000	16.5	-	-	-	2	2
	2000 / 400 V	10.5	-	-	-	2	2
	3500 / 400 V	18	-	-	-	1	1
Metal halogen lamps compensated e.g. high-pressure mercury lamp and metal halide lamp, CDM	35	0.25	6	8	21	42	58
	70	0.45	12	4	11	21	29
	150	0.75	20	2	7	13	18
	250	1.5	33	1	4	9	11
	400	2.1	35	1	4	9	10
	1000	5.8	95	-	1	3	4
	2000	11.5	148	-	-	2	2
	2000 / 400 V	6.6	58	-	-	3	4
	3500 / 400 V	11.6	100	-	-	2	3
Metal halogen lamps with electronic ballast (e.g. PCI) 50 -125 x I_n lamps for 0.6 ms	20	0.1	Integrated	9	9	18	20
	35	0.2	Integrated	6	6	11	13
	70	0.36	Integrated	5	5	10	12
	150	0.7	Integrated	4	4	8	10
Low pressure sodium vapour lamps uncompensated	35	1.5	-	7	9	22	30
	55	1.5	-	7	9	22	30
	90	2.4	-	4	6	13	19
	135	3.3	-	3	4	10	14
	150	3.3	-	3	4	10	14
	180	3.3	-	3	4	10	14
	200	3.3	-	3	4	10	14
Low pressure sodium vapour lamps compensated	35	0.31	20	3	6	15	18
	55	0.42	20	2	6	15	18
	90	0.63	30	1	4	10	12
	135	0.94	45	1	3	7	8
	150	1	40	1	3	8	9
	180	1.16	40	1	3	8	9
	200	1.32	25	-	-	10	12
High pressure sodium vapour lamps uncompensated	150	1.8	-	5	8	17	22
	250	3	-	4	5	10	13
	330	3.7	-	3	4	8	10
	400	4.7	-	2	3	6	8
	1000	10.3	-	1	1	3	4
High pressure sodium vapour lamps compensated	150	0.83	20	2	7	20	25
	250	1.5	33	1	4	12	15
	330	2	40	1	3	10	13
	400	2.4	48	1	2	8	12
	1000	6.3	106	-	1	4	6
High pressure sodium vapour lamps Sodium vapour lamps with electronic ballast (e.g. PCI) 50 - 125 x I_n lamp for 0.6 ms	20	0.1	Integrated	9	9	18	20
	35	0.2	Integrated	6	6	11	13
	70	0.36	Integrated	5	5	10	12
	150	0.7	Integrated	4	4	8	10

DIN-RAIL PANEL PRODUCTS

Stairway light time switches

STAIRWAY LIGHT TIME SWITCHES
WITH PRE-WARNING
OF SWITCH-OFF

230 V AC 50 / 60 Hz
16 A 1 NO (not floating)
Time range 1 to 30 minutes
Incandescent lamp load 2300 W
Glow lamp current 50 mA

1 M

	ITEM NO.	WEIGHT g / EACH	PACKING UNIT
	TZA2301	76	12

TZA2301 Stairway light time switches
Stand-by loss only 0.5 Watt.
Contact circuit in zero crossing to protect the contacts and lamps. This is especially good for increasing the endurance for energy-saving lamps. Very low switching noise.
Exact time settings from 1 to 30 minutes with minute scale.
Control, supply and switching voltage 230 V. Also with galvanically separated universal control voltage 8...230 V UC.
Glow lamp current up to 50 mA, independent of the glow lamp ignition voltage.
Own continuous light switch with large rotary switch.

When the pre-warning switch-off is activated, the light flickers approx. 30 seconds before time elapses and 3 times in total in shorter and shorter periods.

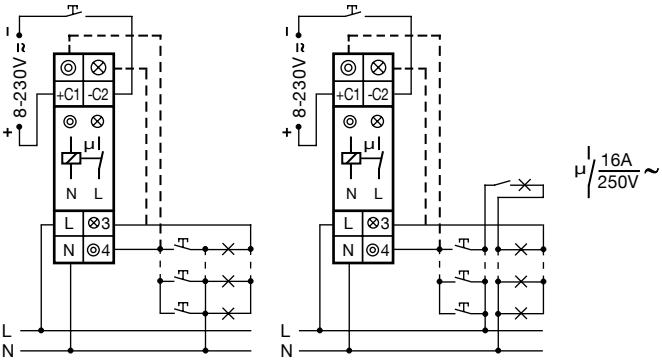
When the continuous light button is activated, pressing the button for longer than one second can activate the continuous light, which is automatically switched off after 60 minutes or can be switched off by pressing for longer than 2 seconds.
If the continuous light button and the pre-warning of switch-off are activated, then the pre-warning of switch-off only activates after switching off the continuous light.
If energy-saving lamps are switched (ESL) completely or partly, then set the pre-warning of switch-off and the continuous light button on the right ESL side of the rotary switch.
Within 1 second after switch-on or subsequent switch-on, the **time** can be **extended** (pumped) with the TLZ functions by briefly pressing the button three times. Every touch adds one time to the set time.

Multifunctional: Can switch between the **FS** (impulse relay), **ST** (relay) and **ESV** (impulse relay with release delay) functions.
The ESV function, the times (t) settable with the rotary switch above correspond to the following values: 1 = 2 min, 2 = 5 min, 3 = 10 min, 4 = 15 min, 6 = 25 min, 8 = 35 min, 10 = 45 min, 12 = 60 min, 20 = 90 min, 30 = 120 min.
After the set delay time has elapsed, automatic switch-off is carried out if the manual OFF command was not given. Pre-warning of switch-off and the continuous light button can be connected for ESV. Forgotten continuous light is switched off after 2 hours.

Connection examples

3-conductor circuit
with subsequent switching

4-condictor circuit,
with attic lighting,
with subsequent switching

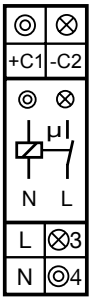


Automatic mode:

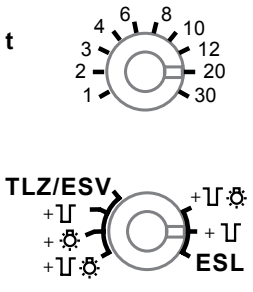
pre-warning switch

continuous light button

TLZ: t_{max} = 30 min
ESV: t_{max} = 120 min



With double connections for button and lamp so that they can be connected above and below or only below.



Time setting
TLZ / ESL t = time 1 to 30 minutes
ESV t = time 2 to 120 minutes

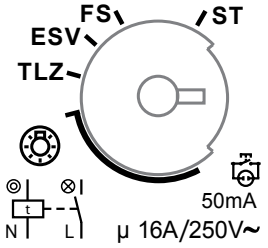
Function selection switch TLZ / ESV and ESL

= Pre-warning of switch-off

= Continuous light button

= Continuous light button + pre-warning of switch-off

= Continuous light switch



DIN-RAIL PANEL PRODUCTS

Stairway light time switches

Technical data stairway light time switch	**TZA2301 ***
Contacts	
Contact material / contact interval	$AgSnO_2$ / 0.5mm
Interval control connections / contact	3 mm
Interval A1-A2 / contact	6 mm
Test voltage control connections / contact	2 000 V
Test voltage A1-A2 / contact	4 000 V
Nominal switching capacity AC	16 A / 250 V
Incandescent lamps and halogen lamp load 230 V 1)	2 300 W
Fluorescent lamp load (conventional ballast) In DUO switching or uncompensated	1 000 VA
Fluorescent lamp load (conventional ballast) with parallel compensation or with electronic ballast	500 VA
Compact fluorescent lamps with electronic ballast And energy-saving lamps ESL	15 x 7 W 10 x 20 W
Endurance with rated load, cos φ = 1 or for incandescent lamps 1 000 W for 100 / h	$>10^5$
Endurance with rated load, cos φ = 0.6 to 100 / h	$>4 \times 10^4$
Switching frequency max.	10^3 / h
Box terminal cross sections	12 mm^2
Maximum cross section of a conductor	6 mm^2
Screw head	Slotted / cross slot, pozidriv slot
Protection cover (device side)	VDE 0106 part 100

Electronics	
Switch-on duration	100%
Temperature at the installation location max. / min.	+50 °C / -20 °C
Stand-by loss (active power)	0.5 W
Control current locally at 230 V (<10 s) ± 20%	5 (100) mA
Max. parallel capacity (approx. length) of the individual control lines for 230 V AC	0.06 µF (approx. 200 m)

Fulfilled EN 61000-6-3, EN 61000-6-1 and EN 60 669 standards
With pre-warning of switch-off acc. to DIN 18015-2

* Bistable relay as NOC. Wait for automatic synchronisation after installation before applying the switched load to the mains.

1) For lamps with max. 150 W.

DIN-RAIL PANEL PRODUCTS

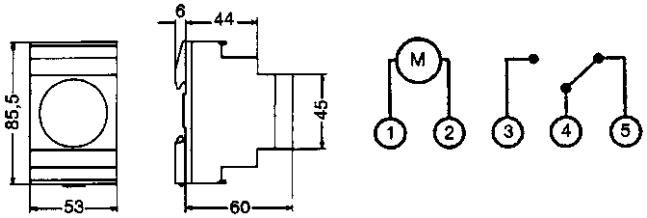
Synchronised / Quartz time switch

SYNCHRONISED TIME SWITCH

230 V~ 50 Hz
16 A, 1 CO contact
without power reserve

3 M

	ITEM NO.	WEIGHT g/EACH	PACKING UNIT
24 h	**AZ1TS**	200	1
7 Tage	**AZ7TS**	200	1

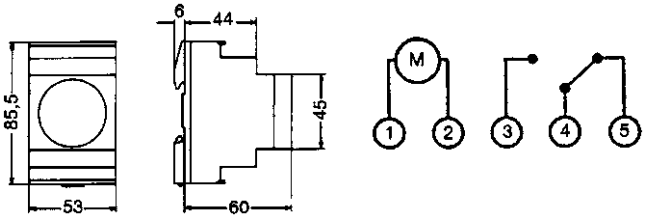


QUARTZ TIME SWITCH

230 V~ 50 / 60 Hz
16 A, 1 CO contact
Power reserve 150 h

3 M

	ITEM NO.	WEIGHT g/EACH	PACKING UNIT
24 h	**AZ1TQ**	200	1
7 Tage	**AZ7TQ**	200	1



Technical data / type	**AZ1TS / AZ7TS**	**AZ1TQ / AZ7TQ**
Operating voltage	220 - 240 V AC	230 V AC / 130 V DC
Frequency	50 Hz	45 - 60 Hz
Power consumption	approx. 1 VA	
Power reserve	–	150 h battery
Charge time	–	70 h
Accuracy	Network synchronisation	± 2.5 sec. / day at 20 °C
Minimum switch-on duration · Daily program · Weekly program	30 min 3 h	
Programming · Daily program · Weekly program	30 min 3 h	
Manual switch	Continuous OFF / clock operations / continuously ON	
Contacts	1 CO contact	
Contact power · with ohmic load cos. φ = 1 · with inductive load cos. φ = 0.6	16 A / 250 V AC µ 4 A / 250 V AC	
For incandescent lamps	1350 W	
Temperature range	-25 °C to +55 °C	
Protection class	II acc. to EN 60335-1	
Degree of protection	IP20 acc. to EN 60529	

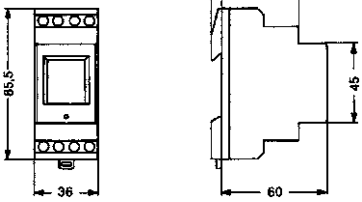
DIN-RAIL PANEL PRODUCTS
Digital timer

DIGITAL TIMER
230 V~, 50/60 Hz, 16 A
1 channel, 50 storage places
2 channels, 50 storage places
Program 24 h, 7 days

2 M

	ITEM NO.	WEIGHT g / EACH	PACKING UNIT
1 channel	**DZ201**	170	1
2 channels	**DZ302**	170	1

Technical data / Typ	**DZ201**	**DZ302**
Operating voltage	220-240 V / 50-60 Hz	
Power input up to 230 V~ (AC)	5 VA	
Switching capacity AC Ohmic load (VDE, IEC) Inductive load cos. φ 0,6 Incandescent lamp load	 16 A / 250 V AC 8 A / 250 V AC 1000 W	
Switching capacity DC 24 V– 50 V– 220 V–	 800 mA 300 mA 150 mA	
Switching output	Floating	
Switching contacts	1 CO contact	2 CO contact
Ambient temperature	–25 °C *) ... + 55 °C	
Protection class	II acc. to EN 60335-1	
Accuracy	type ± 1 s / day when +20 °C	
Power reserve	3 years ex works for +20 °C	
Shortest switching time	1 min	
Programmable	1 min	
Storage places	50	
Manual switch	Automatic / pre-selection Fix ON/ Fix OFF	
Block formation of week days	Free assignment	
Display switch state	Yes	
Daylight saving time option	automatic / free selection / off	
Max. conductor cross section	4 mm²	
Type of connection	Captive ± screw terminals	
Sealable	Yes	
Programming	Menu in 15 languages	



*) for limited display functions

DIN-RAIL PANEL PRODUCTS

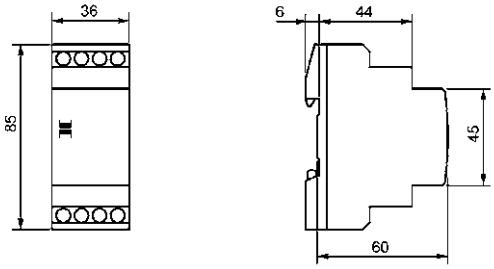
Transformers

SAFETY BELL
TRANSFORMER

230 V~ 50 Hz
U/I secondary
8 - 12 V / 1 – 0.67 A
Short-circuit proof with PTC

2 M

	ITEM NO.	WEIGHT g/EACH	PACKING UNIT
8 VA	**KT08**	211	1

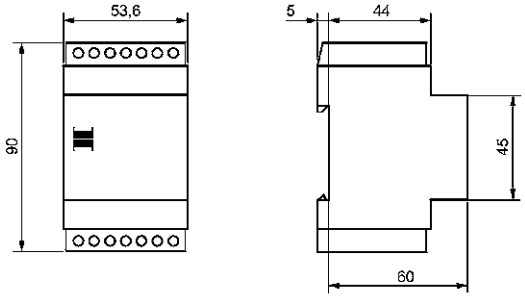


SAFETY BELL
TRANSFORMER

230 V~ 50 Hz
U/I secondary
16 VA 8-12-24 V / 1.3-1.3-0.67 A
24 VA 8-12-24 V / 2-2-1 A
Short-circuit proof with PTC

3 M

	ITEM NO.	WEIGHT g/EACH	PACKING UNIT
16 VA	**KT16**	537	1
24 VA	**KT24**	758	1

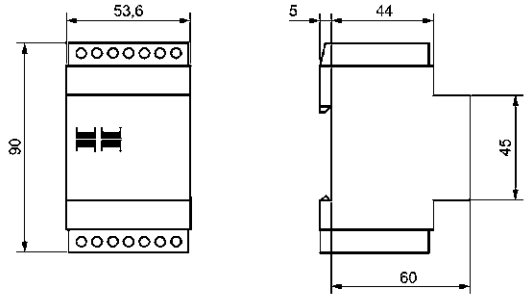


SAFETY TRANSFORMER

230 V~ 50 Hz
U/I secondary 12-12 V / 1.67-1.67 A
Parallel circuit 12 V / 3.3 A
Series circuit 24 V / 1.67 A
Short-circuit proof with PTC

3 M

	ITEM NO.	WEIGHT g/EACH	PACKING UNIT
40 VA	**ST40**	790	1



SAFETY TRANSFORMER

230 V~ 50 Hz
U/I secondary 12-12 V / 2.63-2.63 A
Parallel circuit 12 V / 5.25 A
Series circuit 24 V / 2.63 A
Short-circuit proof with PTC

6 TE

	ITEM NO.	WEIGHT g/EACH	PACKING UNIT
63 VA	**ST63**	1731	2