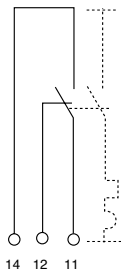
ACCESSORIES AND AUXILIARIES FOR MINIATURE CIRCUIT BREAKERS

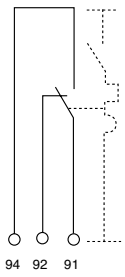
AUXILIARY CONTACTS AND RELEASES

TECHNICAL DATA RELEASES		CURRENT SHUNT TRIP RELEASES					MINIMUM VOLTAGE RELEASES		
		GW 96 011		GW 96 012			GW 96 016	GW 96 017	GW 96 018
Nominal voltage (V)	a.c. - 50Hz	12	48	110	–	415	230	24	48
	d.c.	12	48	110	125	–	–	24	48
Release voltage (V)	a.c. - 50 Hz	–		–			0.63Vn	0.54Vn	0.56Vn
	d.c.	–		–			–	0.57Vn	0.55Vn
Minimum operating voltage (V)	a.c. - 50Hz	8.4		77			–	–	–
	d.c.	8.4		77			–	–	–
Minimum resetting voltage (V)	a.c. - 50Hz	–		–			0.67Vn	0.67Vn	0.68Vn
	d.c.	–		–			–	0.62Vn	0.69Vn
Maximum operating voltage (V)	a.c. - 50Hz	52.8		456.5			–	–	–
	d.c.	52.8		137.5			–	–	–
Control pulse duration (ms)		< 10		< 10			–	–	–
Tripping time (ms)		< 10		< 10			–	–	–
Tripping delay (ms)		–	–	–	–	–	300	300	300
Surge current (A)		1.2	4.8	0.22	0.25	0.84	–	–	–
Holding current (mA)		–	–	–	–	–	12	10	12
Surge power (VA in a.c. e W in d.c.)		14.4	230.4	24.4	31.6	348	–	–	–
Holding power (VA in a.c. e W in d.c.)		–	–	–	–	–	2.8	0.28	0.57
Coil resistance (Ω)		10		495			–	–	–
Operating temperature (°C):		– 5 + 55		– 5 + 55			– 5 + 55		
Maximum conductor cross-section (mm^2):		2.5		2.5			2.5		

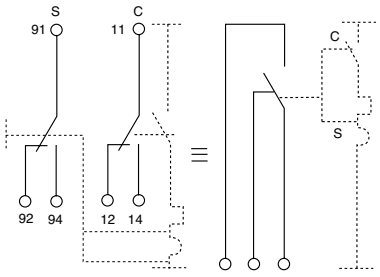
FUNCTIONAL DIAGRAMS - AUXILIARY CONTACTS



GW 96 001

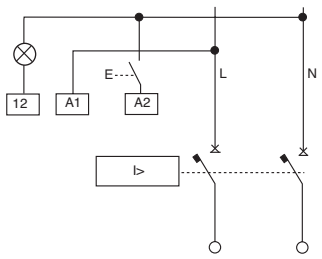


GW 96 006

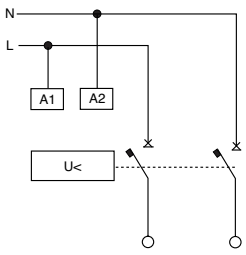


GW 96 009

FUNCTIONAL DIAGRAMS - RELEASES



GW 96 011
GW 96 012

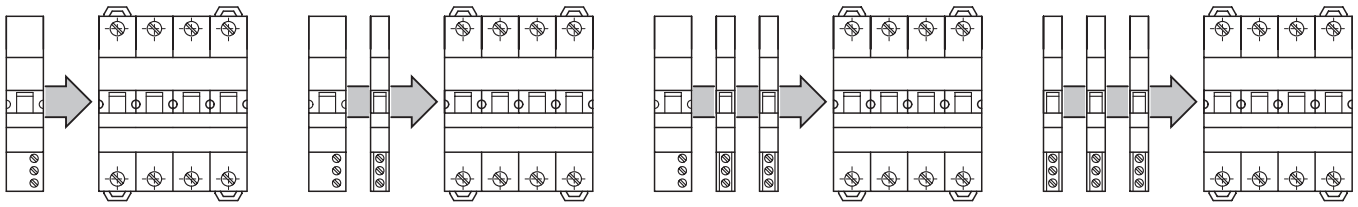


GW 96 016
GW 96 017
GW 96 018

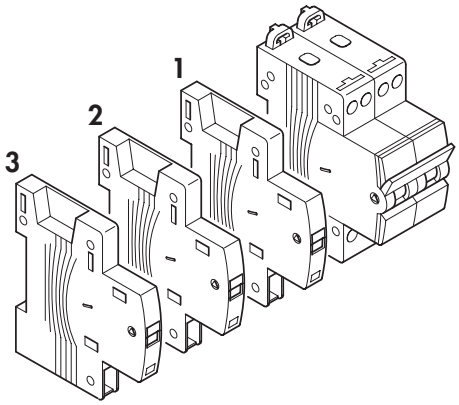
Accessories and auxiliaries for miniature circuit breakers

Up to max. 3 accessories can be fitted to each circuit breaker. The releases must be positioned on the outer edge, to the left of the accessories. The auxiliary open/closed contact can also be associated to isolators with In≥63A current

MTC - MT - MTHP - MDC



If more than one auxiliary open/closed contact is used, it is necessary to respect the association rules shown in the table below.

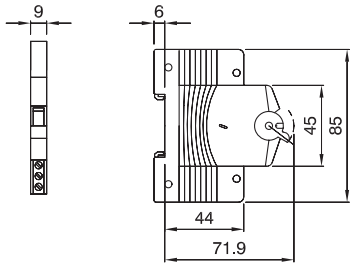


3	2	1
GW 96 001 GW 96 009c	GW 96 001 GW 96 009c	GW 96 001 GW 96 009c
GW 96 001 GW 96 009c	GW 96 001	
	GW 96 009c	GW 96 006 GW 96 009s
GW 96 001 - GW 96 009c GW 96 006 - GW 96 009s	GW 96 006 GW 96 009s	

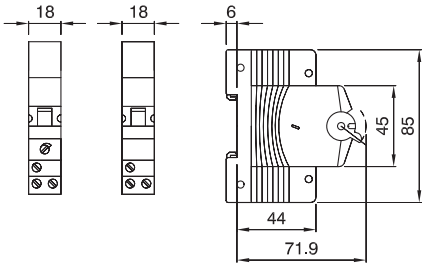
GW 96 009 auxiliary contact fitted for open/closed position
GW 96 009 auxiliary contact fitted for disengaged relay

Dimension tables

Auxiliary contacts



Releases

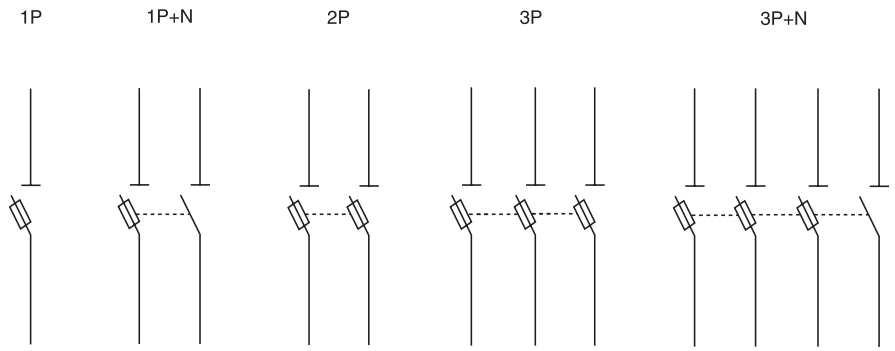


PROTECTION

DISCONNECTABLE FUSE-HOLDERS

TECHNICAL DATA			
	8.5 x 31.5	**10.3 x 38**	**14 x 51**
Reference Standard:	EN 60947-3	EN 60947-3	EN 60947-3
Nominal operating current Ie (A):	20	32	50
Nominal voltage Un (V):	400 a.c.	690 a.c.	690 a.c.
Nominal insulating voltage Ui (V):	400 a.c.	690 a.c.	690 a.c.
Nominal impulse voltage Uimp (kV):	8	8	8
Usage category:	AC-22B	AC-22B	AC-22B
Conditioned shorting current (kA):	50	100	100
Dissipated power per pole (W):	2.5	3	5
Protection class:	IP20	IP20	IP20
Operating temperature(°C)	-10...+40	-10...+40	-10...+40
Max. conductor cross-section (mm^2):	25	25	35

FUNCTIONAL DIAGRAMS



GW 96 206 GW 96 216 GW 96 301 GW 96 306 GW 96 311

PROTECTION

OVERLOAD CUT-OUTS

TECHNICAL DATA	
Reference Standard:	EN 60947-2
Nominal voltage Un (V):	230-400 a.c.
Nominal insulating voltage Ui (V):	440 a.c.
Nominal impulse voltage Uimp (kV):	4
Nominal operating current Ie (A):	0.16...40
Operating frequency (Hz):	50-60
Breaking capacity:	

Operating current (A)	Icu [kA] - 230V/400V
0.1 - 0.16	120
0.16 - 0.25	120
0.25 - 0.63	120
0.63 - 1	120
1 - 1.6	120
1.6 - 2.5	120
2.5 - 4	120
4 - 6.3	10
6.3 - 10	10
10 - 16	10
16 - 25	10
25 - 40	10

Maximum operating voltage AC-3:

Nominal current [A]	Operating current [A]	P [kW] 230V	P [kW] 400V
0.16	0.1 - 0.16	-	-
0.25	0.16 - 0.25	-	0.06
0.4	0.25 - 0.4	0.06	0.09
0.63	0.4 - 0.63	0.09	0.12
1	0.63 - 1	0.12	0.25
1.6	1 - 1.6	0.25	0.55
2.5	1.6 - 2.5	0.37	0.75
4	2.5 - 4	0.75	1.5
6.3	4 - 6.3	1.1	2.2
10	6.3 - 10	1.5	3
16	10 - 16	3	7.5
25	16 - 25	5.5	11
40	25 - 40	11	18.5

Max. no. of mechanical operations:	20.000
Max. no. of electrical operations in AC3:	6.000
Sectioning aptitude:	yes
Power supply:	upline/downline
Total dissipated power	

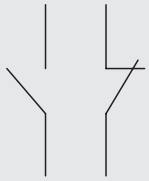
Nominal current [A]	W
0.16	7.7
0.25	7.9
0.4	5.8
0.63	5.3
1	6.5
1.6	5.4
2.5	5.5
4	5.9
6.3	7.6
10	7
16	9
25	12.5
40	11.8

Protection class:	IP20
Operating temperature(°C)	-25...+70
Max. conductor cross-section (mm²):	25

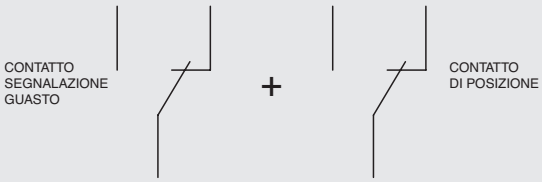
PROTECTION

TECHNICAL DATA AUXILIARY CONTACTS:	
Contact rating (A) in AC15:	2A (250V a.c.)
Contact rating (A) in AC13:	3A (250V a.c.)
Contact rating (A) in DC12:	0.5A (110V d.c.)
Max. conductor cross-section (mm ²):	2.5

GW 96 764 POSITION CONTACT



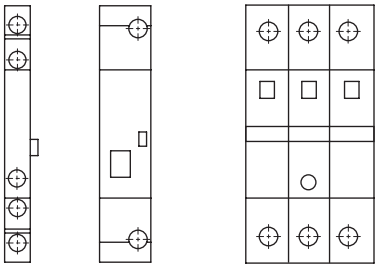
GW 96 765 FAULT INDICATOR CONTACT



TECHNICAL DATA SHUNT TRIP RELEASES:	
Absorbed breakaway current (A):	1.4(230V)
Max. conductor cross-section (mm ²):	2.5

TECHNICAL DATA UNDER VOLTAGE RELEASES:	
Hold-off voltage:	0.8 Un
Opening voltage:	0.5 Un
Power absorbed when holding (VA):	3 (230V) - 5 (400V)
Max. conductor cross-section (mm ²):	2.5

ACCESSORIES - POSSIBLE COMBINATIONS

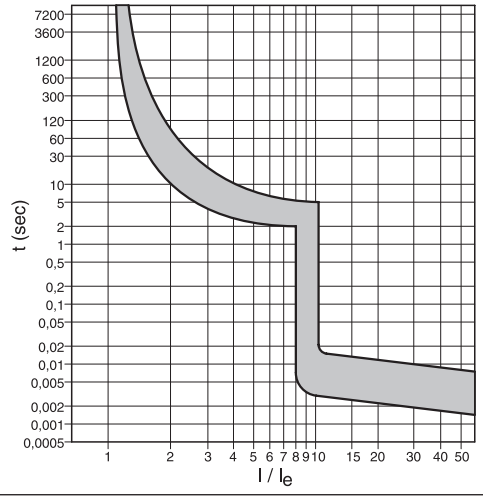


Overload cut-out with:

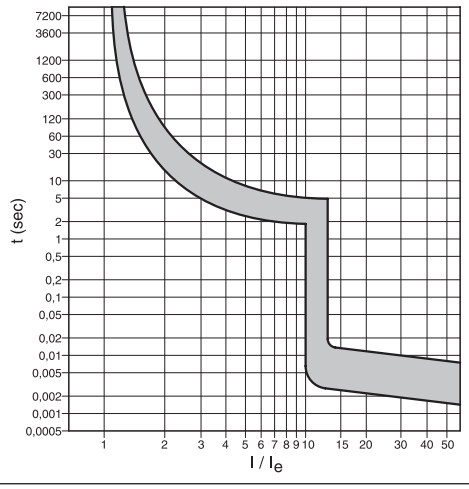
Position contact	Fault indicator contact	Shunt trip release coil	Min. voltage coil
●			
	●		
		●	
			●
	●	●	

CHARACTERISTIC CURVES

OVERLOAD CUT-OUT TRIPPING CURVE 0.16/0.25/0.40/0.63/10A



OVERLOAD CUT-OUT TRIPPING CURVE 1/1.6/2.5/4/6.3/16/25/40A

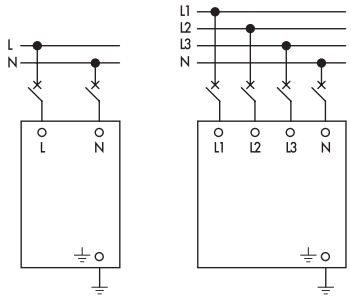


PROTECTION

VOLTAGE SURGE LIMITERS

TECHNICAL DATA	
Reference Standard:	EN 61643-11
Nominal voltage (V)	230 (2P) / 400 (1P and 4P)
Maximum continuative voltage Uc (V):	275 (2P) / 440 (1P and 4P)
Maximum transient discharge current Imax (wave 8/20µs) (kA):	15 (for version Imax 15kA) 40 (for version Imax 40kA)
Nominal transient discharge current Imax (wave 8/20µs) (kA):	5 (for version Imax 15kA) 15 (for version Imax 40kA)
Test class:	II
Protection level Up (kV):	1.2 (2P e 4P) / 1.8 (1P)
Response time (ns):	< 25
Protection mode:	3+1 (4P)- 1+1 (2P) / Common and differential mode
Continuative current Ic (mA):	< 1
Back-up protection:	Fuse: for Imax 40kA fuse 14x51 of 50A, for Imax 15kA fuse 10.3x38 of 25A Miniature circuit breaker: In ≤ 25A
End-of-life indicator:	yes
Protection class:	IP20
Operating temperature (°C):	-20...+40
Storage temperature (°C):	-40...+70
Maximum conductor cross-section (mm²):	F/N 16 flexible cable, 25 rigid cable - T 35 flexible cable, 50 rigid cable

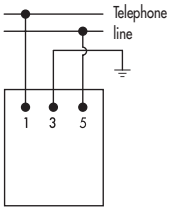
FUNCTIONAL DIAGRAMS - VOLTAGE SURGE LIMITERS



VOLTAGE SURGE LIMITERS FOR TELEPHONE AND DATA TRANSMISSION LINES

TECHNICAL DATA	
Nominal voltage (V)	200 a.c.
Transient discharge current wave 8/20µs (kA):	10 (for 1 discharge) - 5 (for 20 discharges)
Protection level Up (kV):	0.7
Frequency band (Hz):	up to 100
Type of protection:	parallel
Operating temperature(°C):	-20...+40
Storage temperature (°C):	-40...+70
Maximum conductor cross-section (mm²):	2.5

FUNCTIONAL DIAGRAM - VOLTAGE SURGE LIMITER FOR TELEPHONE LINES



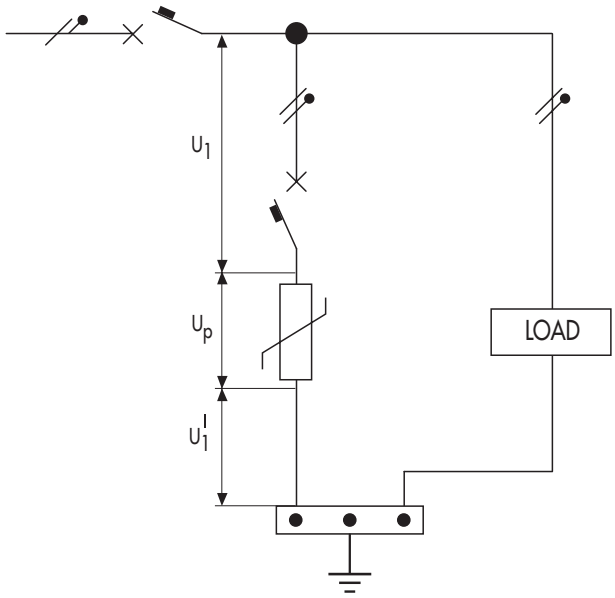
PROTECTION

GUIDE TO USING VOLTAGE SURGE LIMITERS

Voltage surge limiters, commonly called SPDs, have the purpose of limiting the damage caused by voltage surges of atmospheric origin in electrical systems.
GEWISS (class II) voltage surge limiters can be used in industrial or domestic systems not equipped with a lightning conductor (external LPS) where you wish to reduce the components at risk (D-M-G) of causing damage to people and economic damage to users as per CEI 81-4 Standard.
GEWISS voltage surge limiters provide both common and differential mode protection:
- common mode: protection between live wires and earth (phase-earth, neutral-earth)
- differential mode: protection between live wires (phase-neutral, phase-phase).

In order to provide proper protection of the equipment in the system, attention must be paid to the U_p protection level of the voltage surge limiter. In particular, the following relation must be verified (CEI 81-8 Guide):

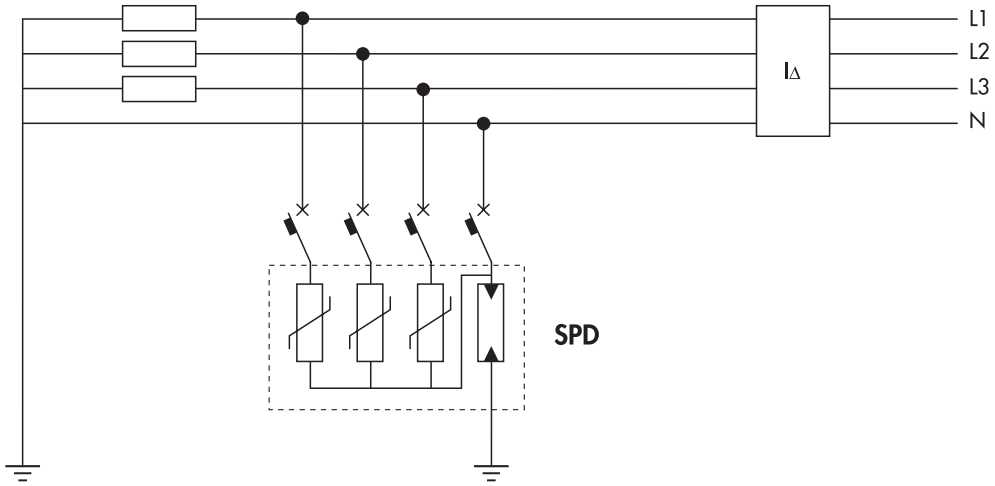
$U_{prot} = U_p + U_1 + U_1' < U_{ten}$



where U_p is the level of protection of the voltage surge limiter, U_1 and U_1' the voltage drops on the SDP connection cables, U_{prot} the actual level of protection and U_{ten} the pulse holding voltage of the load.

The voltage surge limiters must be installed in a different way depending on the distribution system. The different installation methods are given here below.

TT SYSTEM
As it is Class II, the voltage surge limiter can also be installed downline of the RCD. In this case it is a good idea to use a selective residual circuit breaker so as to prevent untimely tripping.

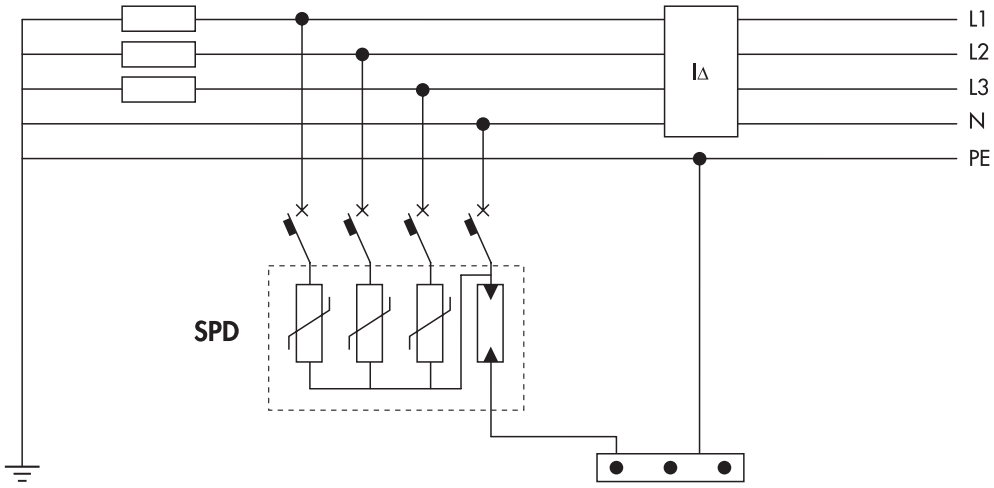


PROTECTION

VOLTAGE SURGE LIMITERS

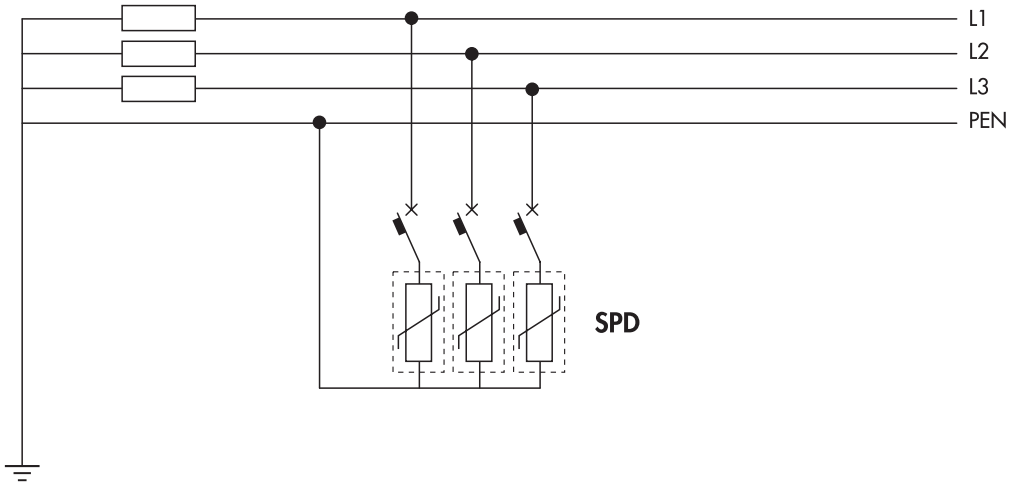
TN-S SYSTEM

As it is Class II, the voltage surge limiter can also be installed downline of the RCD. In this case it is a good idea to use a selective residual circuit breaker so as to prevent untimely tripping.



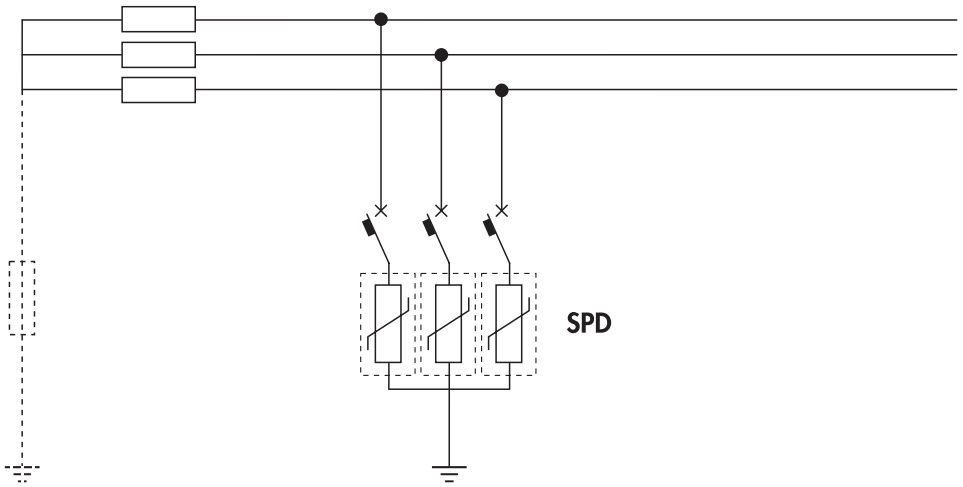
TN-C SYSTEM

SPD: use 3 single-pole voltage surge limiters.



IT SYSTEM

SPD: use 3 single-pole voltage surge limiters.

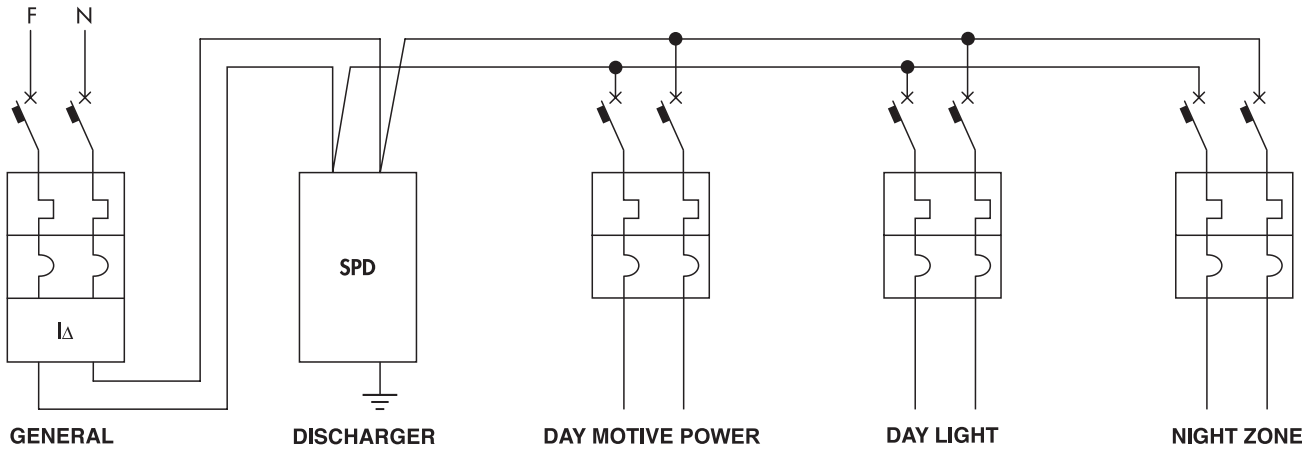


The voltage surge limiters must be provided with back-up protection against short-circuiting, which can be a miniature circuit breaker or a fuse (see technical characteristics table). In order to reduce the actual protection voltage U_{prot}, it is advisable that the connections between back-up protection and voltage surge limiter and earthing terminal block be as short as possible.
The SPD wiring must be made with cables having a cross-section no smaller than 4mm^2.

PROTECTION

All voltage surge limiters are equipped with end-of-life indicator. It is possible to reset the status of the voltage surge limiter using the relevant (two-pole or four-pole) base equipped with auxiliary contact (1 change-over contact).

USE OF VOLTAGE SURGE LIMITERS IN DOMESTIC CONTROL UNITS



As they are 1+1 type, i.e. with protection between neutral and PE, GEWISS voltage surge limiters can also be installed upline of the 30mA instantaneous residual circuit breaker, so as to reduce the risk of untimely tripping due to voltage surges of atmospheric origin. In this case, an additional back-up protection (e.g. a 25A two-pole fuse) must be provided.

PROTECTION

RESIDUAL CURRENT RELAY WITH SEPARATE CORE

TECHNICAL DATA	
Reference Standards:	EN 60947-2 Appendix M
Nominal voltage Un (V):	230 a.c. ±10%
Test voltage (kV):	2 at 50Hz (1kV per measurement circuit)
Nominal frequency (Hz):	40-60
Type:	A
Sensitivity calibration IΔn:	30 - 50 - 150 - 230 - 300 - 350mA 0.5 - 1 -1.5 - 2 - 3A
Delay time calibration Δt (s):	0 - 0.25 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 10
Output contact:	1 change-over, 10A - 250V
Insulation class:	II
Absorbed power (VA):	4
Protection class:	IP20
Operating temperature (°C):	0...+55
Storage temperature (°C):	-20...+80
Maximum conductor cross-section (mm²):	6
Sealable:	yes

ON (green LED): relay powered

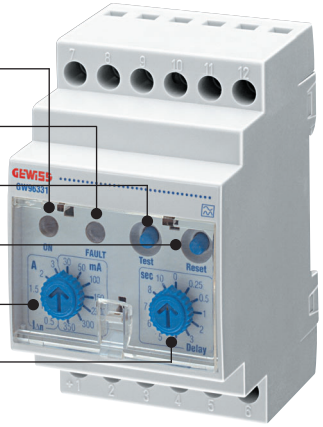
FAULT (red LED): relay tripping

TEST: relay test button

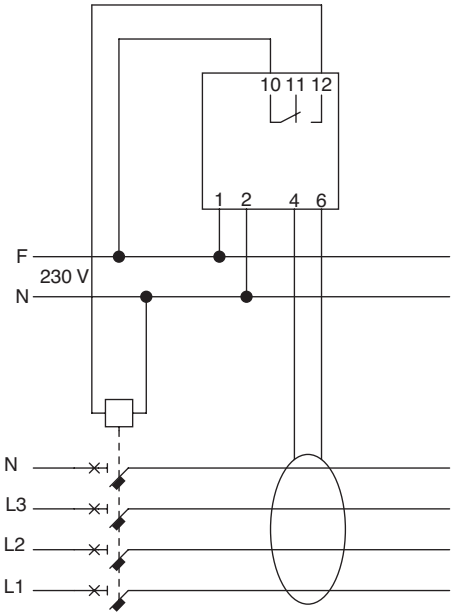
RESET: anomaly resetting

IΔn: sensitivity adjustment

DELAY: timing adjustment



FUNCTIONAL DIAGRAMS



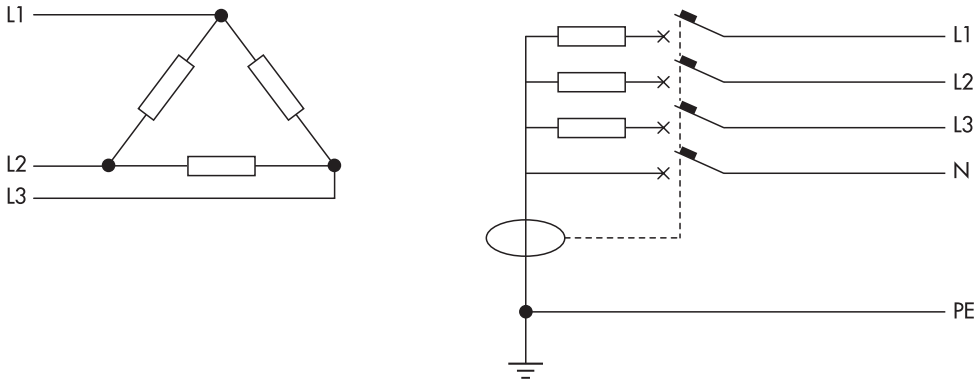
In order for the residual current protection to operate, it is necessary to use the following components:
- residual current relay GW 96 331 (EN 50022 rail installation)
- garter spring (GW 96 332 ÷ GW 96 337)
- release coil (shunt trip o or under voltage) to be used an accessory to the associated miniature circuit breaker.

The connection cables between residual current relay and garter spring must have a lenght of less than 20m.

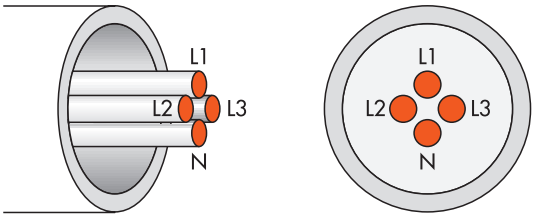
Protection

Guide to using the residual current relay with separate core

In the case of high power distribution boards (power centers) characterised by large cable cross-sections, it is possible to position the garter spring directly on the connection cable of the star centre (of the MT/BT transformer) at earth:



Special attention must be paid to installing the garter spring. The cables must be as centred as possible inside the garter spring so as to prevent untimely tripping of the relay where there are high nominal currents circulating in the conductors (which could take the garter spring to localized saturations).



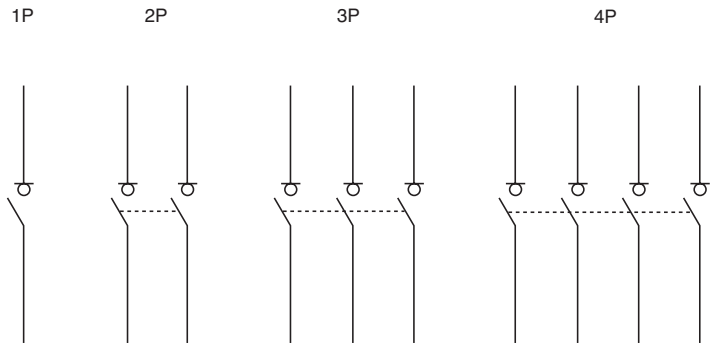
COMMAND

DISCONNECTING SWITCHES

TECHNICAL DATA

		In<63A				In≥63A			
Reference Standard:		EN 60947-3				EN 60947-3			
Nominal voltage Un (V):		230-400 a.c.				230-400 a.c.			
Nominal insulating voltage Ui (V):		500 a.c.				500 a.c.			
Nominal impulse voltage Uimp (kV):		4				4			
Nominal frequency (Hz):		50				50			
Nominal operating current Ie (A):		16	20	32	40	63	80	100	125
Usage category:		AC-23B				AC-22B			
Nominal closing capacity (A):		160	200	320	400	189	240	300	375
Nominal breaking capacity (A):		128	160	256	320	189	240	300	375
Nominal allowable short duration current Icw (A):		192	240	384	480	756	960	1200	1500
Conditional short-circuiting current (kA):									
	MTC 45	4.5	4.5	4.5	3	3	3	3	3
	MTC 60 - MT 60	6	4.5	4.5	3	3	3	3	3
	MTC 100 - MT 100	6	4.5	4.5	3	3	3	3	3
	MT 250	6	4.5	4.5	3	3	3	3	3
	MTHP 160 - MTHP 250	3	3	3	3	3	3	3	3
Dissipated power per pole (W):		0.45	0.52	0.8	1.5	2	3.2	5	6
Maximum conductor cross-section (mm^2):		25				50			

FUNCTIONAL DIAGRAMS



Note: the 63÷125A switches can be accessorised with auxiliary contacts.

COMMAND

ON-OFF SWITCHES

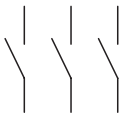
TECHNICAL DATA					
Reference Standards:	EN 60669-1				
Nominal voltage Un (V):	230-400 a.c.				
Nominal insulating voltage Ui (V):	500 a.c.				
Nominal frequency (Hz):	50-60				
Nominal operating current Ie (A):	16	25	32	40	63
Dissipated power per pole (W):	0.15(*)	0.7	0.9	1.5	2.8
Indicator lamp supply voltage (V):	230				
Closing capacity:	1.25 Ie - 1.1 Un - cosφ= 0.6				
Operating temperature (°C):	-5...+40				
Maximum conductor cross-section (mm²):	6	16	16	25	25

(*) total dissipated power for on-off switches with indicator lamp:
- 1.5W 1P version
- 2.5W 2P version

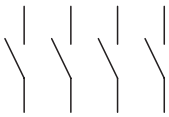
FUNCTIONAL DIAGRAMS

GW 96 241
GW 96 242
GW 96 243

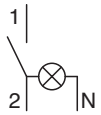
GW 96 246
GW 96 247
GW 96 248
GW 96 249
GW 96 250



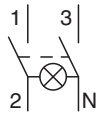
GW 96 251
GW 96 252
GW 96 253
GW 96 254
GW 96 255



GW 96 256
GW 96 257
GW 96 258



GW 96 346

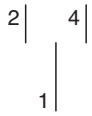


GW 96 347

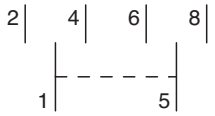
THREE-WAY SWITCHES

TECHNICAL DATA		
Reference Standards:		EN 60669-1
Nominal voltage Un (V):		230-400 a.c.
Nominal frequency (Hz):		50-60
Nominal operating current Ie (A):		16
Device dissipated power (W):		
	GW 96 341	1
	GW 96 342	2
	GW 96 343	1
	GW 96 344	1.5
	GW 96 345	2
Indicator lamp supply voltage (V):		230
Operating temperature(°C)		-5...+40
Maximum conductor cross-section (mm²):		6

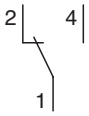
FUNCTIONAL DIAGRAMS



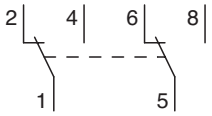
GW 96 341



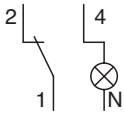
GW 96 342



GW 96 343



GW 96 345



GW 96 344

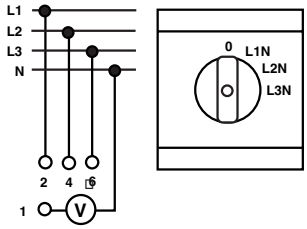
COMMAND

ROTARY SWITCHES

TECHNICAL DATA		
Reference Standards:	EN 60947-3	
Nominal operating current Ie (A):	16	
Nominal voltage Un (V):	230-690 a.c.	
Usage category:	AC3 (only line change-over switches)	
Nominal Power in AC3 (kW):	230V	3
	400V	5.5

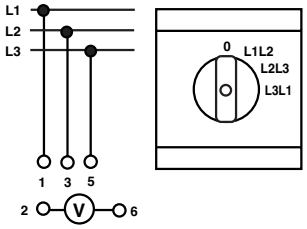
FUNCTIONAL DIAGRAMS

Voltmetric (4 positions)
3 phase voltages + position 0



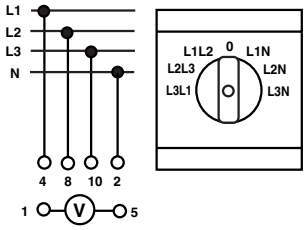
GW 96 851

Voltmetric (4 positions)
3 line voltages +position 0



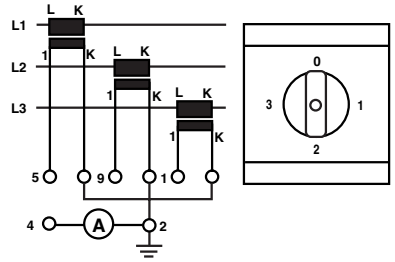
GW 96 852

Voltmetric (7 positions)
3 line voltages + 3 phase voltages + position 0



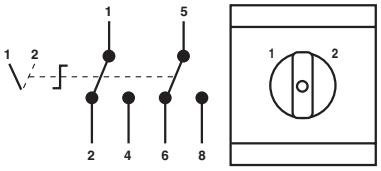
GW 96 853

Amperometric (4 positions)
3 line currents + position 0



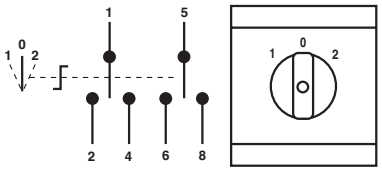
GW 96 856

2-position line change over switches



GW 96 951

3-position line change over switches



GW 96 952 - GW 96 953

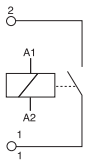
COMMAND

CONTACTORS

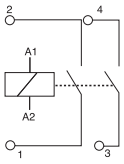
TECHNICAL DATA

		20A	24A	40A	63A
Reference Standards:		EN 61095	EN 61095 EN 60947-4-1	EN 61095 EN 60947-4-1	EN 61095 EN 60947-4-1
Nominal duty current Ie (A):		20	24	40	63
Usage category:		AC7a	AC7a	AC7a	AC7a
Nominal voltage Un (V):		230 - 400 a.c.	230 - 400 a.c.	230 - 400 a.c.	230 - 400 a.c.
Coil control voltage(V):		230 a.c. 24 a.c.	230 a.c.-d.c. 24 a.c.-d.c.	230 a.c.-d.c.	230 a.c.-d.c.
Nominal insulating voltage Ui (V):		500 a.c.	500 a.c.	500 a.c.	500 a.c.
Nominal impulse voltage Uimp (kV):		4	4	4	4
Nominal frequency (Hz):		50	50	50	50
Coil absorption on excitation:		9VA	3.7VA/4W	4.4VA/5W	70VA/65W
Coil absorption during holding:		2.5VA	3.7VA/4W	4.4VA/5W	4.2VA/4.2W
Coil operating voltage:		0.85 - 1.1xUn	0.8 - 1.06xUn	0.8 - 1.06xUn	0.8 - 1.06xUn
Nominal Power in AC3 (kW):					
	230V single-phase	-	1.3	3.7	5
	230V three-phase	-	2.2	5.5	8
	400V three-phase	-	4	11	15
Dissipated power per pole (W):		1	1.2	3	6
Electric operations in AC7a/AC1:		150.000	150.000	150.000	150.000
Mechanical operations in AC7a/AC3:		-	500.000	170.000	240.000
Mechanical operations:		1.000.000	1.000.000	1.000.000	1.000.000
Conditioned shorting current (kA):		3	3	3	3
Min. closing command duration (ms):		25	25	25	25
Operating temperature(°C)		-5...+40	-25...+55	-25...+55	-25...+55
Maximum contact conductor cross-section (mm²):		10 or 2x4	25 or 2x10	25 or 2x10	25 or 2x10
Maximum coil conductor cross-section (mm²):		4 or 2x2.5	4 or 2x2.5	4 or 2x2.5	4 or 2x2.5

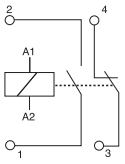
FUNCTIONAL DIAGRAMS - CONTACTORS



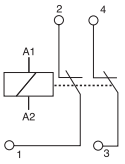
GW 96 701



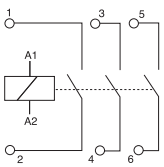
GW 96 702
GW 96 704
GW 96 721
GW 96 731



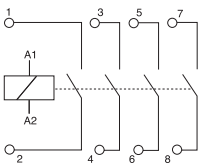
GW 96 703



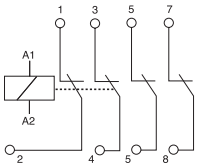
GW 96 705



GW 96 706
GW 96 722
GW 96 732

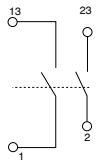


GW 96 708
GW 96 711
GW 96 712
GW 96 723
GW 96 733

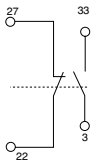


GW 96 713

FUNCTIONAL DIAGRAMS - AUXILIARY CONTACTS



GW 96 741



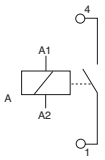
GW 96 742

COMMAND

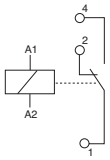
MOMENTARY RELAYS

TECHNICAL DATA				
		1 POLE	2 POLES	4 POLES
Reference Standards:		EN 61095	EN 61095	EN 61095
Nominal operating current Ie (A):		16	16	16
Nominal voltage Un (V):		230 a.c.	230 a.c.	230-400 a.c.
Coil control voltage(V):		12-24-230 a.c.; 24 d.c.	12-24-230 a.c.; 24 d.c.	12-24-230 a.c.
Nominal insulating voltage Ui (V)		250 a.c.	250 a.c.	400 a.c.
Nominal impulse voltage Uimp (kV):		4	4	4
Nominal frequency (Hz):		50	50	50
Coil absorption on excitation (VA):		4	9	14
Coil absorption during holding (VA):		2.4	2.5	6
Coil operating voltage:		0.9...1.1xUn	0.9...1.1xUn	0.9...1.1xUn
Max. lamp power (W):				
	Incandescent lamps	2400	2400	2400
	Fluorescent lamps	500	500	500
	Halogen lamps	1000	1000	1000
Dissipated power per pole (W):		0.6	0.6	0.6
Electric operations (full load, cos φ= 0.9):		100.000	100.000	100.000
Mechanical operations:		1.000.000	1.000.000	1.000.000
Min. closing command duration (ms):		25	25	25
Operating temperature (°C):		-5...+40	-5...+40	-5...+40
Maximum contact conductor cross-section (mm²):		4 or 2x2.5	10 or 2x4	10 or 2x4
Maximum coil conductor cross-section (mm²):		4 or 2x2.5	4 or 2x2.5	4 or 2x2.5

FUNCTIONAL DIAGRAMS



GW 96 601
GW 96 602
GW 96 603



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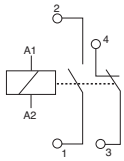
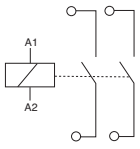
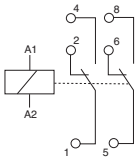
GW 96 923
GW 96 924
GW 96 925
GW 96 926



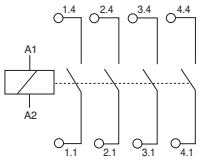
GW 96 606
GW 96 607
GW 96 608



GW 96 615



GW 96 611
GW 96 612
GW 96 613
GW 96 932



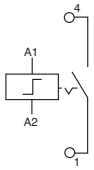
GW 96 616
GW 96 617
GW 96 618

COMMAND

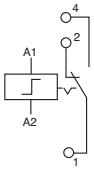
LATCHING RELAY

TECHNICAL DATA	LATCHING RELAY		LATCHING RELAY WITH CENTRALISABLE CONTROL	
	1 POLE	2/4 POLES	1 POLE	2/3 POLES
Reference Standards:	EN 60669-2-2	EN 60669-2-2	EN 60669-2-2	EN 60669-2-2
Nominal operating current Ie (A):	16	16	16	16
Nominal voltage Un (V):	230 a.c.	230 a.c.	230 a.c.	230 a.c.
Coil control voltage(V):	12-24-230 a.c. 24 d.c.	12-24-230 a.c. 24 d.c.	24-230 a.c. 24 d.c.	24-230 a.c. 24 d.c.
Nominal insulating voltage Ui (V):	250 a.c.	250 a.c.	250 a.c.	250 a.c.
Nominal impulse voltage Uimp (kV):	4	4	4	4
Nominal frequency (Hz):	50	50	50	50
Coil absorption on excitation:	5VA/30W	9VA/12W	9VA/12W	9VA/12W
Coil absorption during holding:	3.5VA/1W	2.5VA/1W	1VA/1W	1VA/1W
Coil operating voltage:	0.9 - 1.1xUn	0.9 - 1.1xUn	0.9 - 1.1xUn	0.9 - 1.1xUn
Max. lamp power (W):				
Incandescent lamps	2400	2400	2400	2400
Fluorescent lamps	500	500	500	500
Halogen lamps	1000	1000	1000	1000
Dissipated power per pole (W):	1.5	1.5	1.5	1.5
Electric operations (Ie and cosφ = 0.9):	100.000	100.000	100.000	100.000
Mechanical operations:	200.000	200.000	200.000	200.000
Min. closing command duration (ms):	25	25	25	25
Operating temperature (°C):	-5...+40	-5...+40	-5...+40	-5...+40
Maximum contact conductor cross-section (mm²):	4 or 2x2.5	10 or 2x4	10 or 2x4	10 or 2x4
Maximum coil conductor cross-section (mm²):	4 or 2x2.5	4 or 2x2.5	4 or 2x2.5	4 or 2x2.5

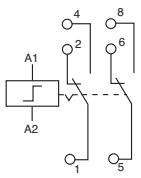
FUNCTIONAL DIAGRAMS - LATCHING RELAY



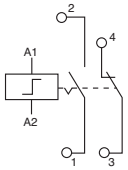
GW 96 621
GW 96 622
GW 96 623



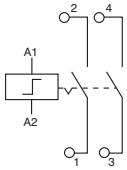
GW 96 626
GW 96 627
GW 96 628
GW 96 630



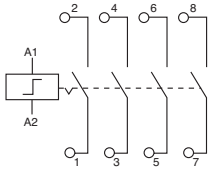
GW 96 673
GW 96 674
GW 96 676



GW 96 631
GW 96 632
GW 96 633

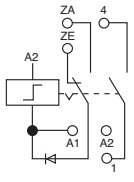


GW 96 636
GW 96 637
GW 96 638

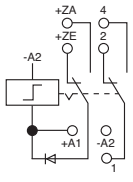


GW 96 641
GW 96 642
GW 96 643

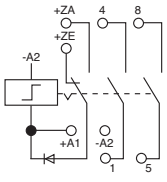
FUNCTIONAL DIAGRAMS - RELAYS WITH CENTRALISABLE CONTROL



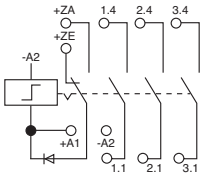
GW 96 652
GW 96 653



GW 96 657
GW 96 658
GW 96 659



GW 96 662
GW 96 663
GW 96 664



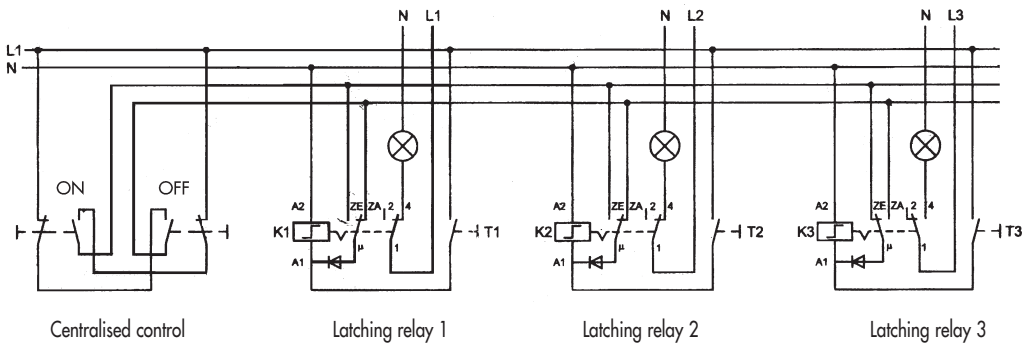
GW 96 667
GW 96 668
GW 96 669

COMMAND

GUIDE TO USING THE LATCHING RELAY WITH CENTRALISED CONTROL

The latching relay with centralised control has an output for control centralisation in just one point, thus permitting all loads controlled by the various relays to be turned on and off independently of their status (on or off).

WIRING DIAGRAM FOR CONTROL CENTRALISATION



Centralised control | Latching relay 1 | Latching relay 2 | Latching relay 3

Note: all latching relays used must be of the "centralised control" type.

COMMAND

BIOCOMFORT (CIRCUIT BREAKER)

TECHNICAL DATA

PRINCIPLE OF OPERATION

The GEWISS circuit breaker (also called bioswitch) reduces the electric system's voltage when all the loads connected to it are turned off. It is not necessary to manually adjust the tripping threshold of the relay since the circuit breaker, with its innovative self-learning function, automatically learns the current absorbed by the loads. When a load is once again turned on, the circuit breaker restores the 230V AC mains voltage necessary for the proper operation of electric equipment. It is then possible to deactivate the circuit breaker using a manual control should maintenance operations on the electric system be necessary.

TECHNICAL DATA

Reference Standard:	EN 60669-2-1
Nominal voltage Un (V):	230 AC ± 10%
Nominal operating current Ie (A):16	
Nominal insulating voltage Ui (V):	250 a.c.
Nominal frequency (Hz):	50
Supervision voltage (V):	5 - 230 d.c.
Max. lamp power (W):	Incandescent lamps: 1600
	Fluorescent lamps:1000
	Lamps with electronic reactor: 700
Dissipated power (W):	1
Mechanical operations:	10.000.000
Closing time (ms):	10 - 20
Opening time (ms):	5 - 15
Operating temperature: (°C)	-20...+50°C
Max. conductor cross section (mm^2):	6

BASE LOAD CHARACTERISTICS

Necessary for fluorescent lamps, loads with absorption less than 30mA or capacitive loads difficult to detect for the circuit breaker
Can be installed directly on the load or in junction boxes

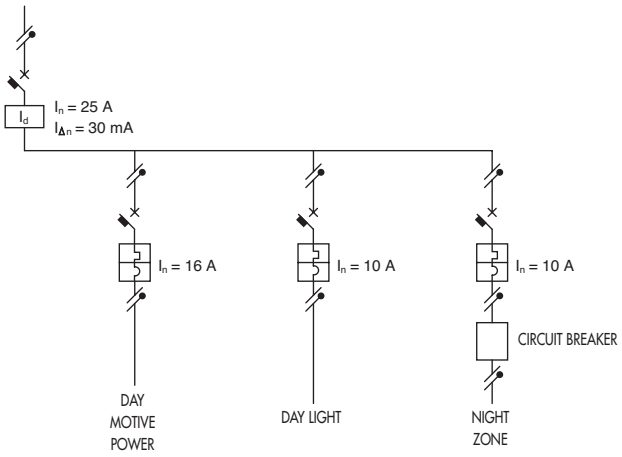
Load and circuit breaker cut-out self-learning selector (system permanently at 230V a.c.)

Selector for adjusting the system supervision voltage from 5 to 230V d.c.

PROGRAMMING

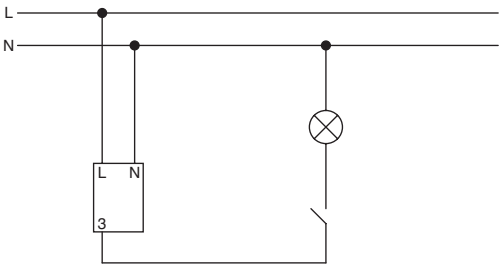
FUNCTIONAL DIAGRAMS

INSTALLATION EXAMPLE

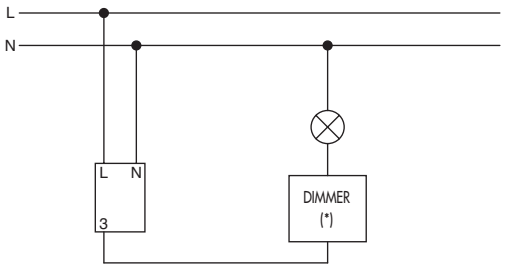


Install the circuit breaker downline of the residual current circuit breaker protection.

INCANDESCENT LAMPS

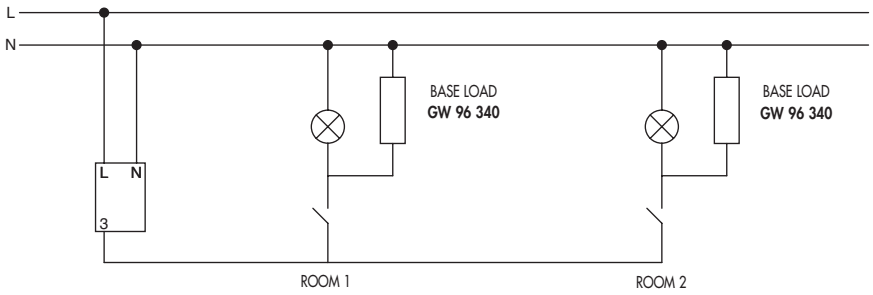


INCANDESCENT LAMPS WITH ROTARY DIMMER

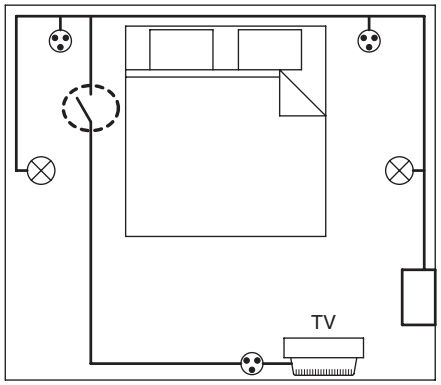


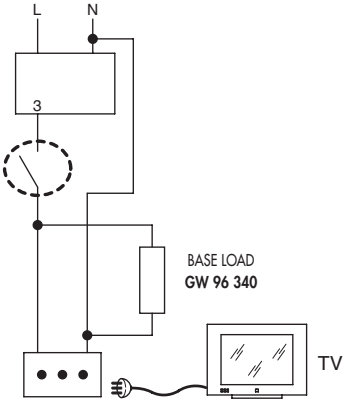
(*) Use rotary dimmers of the SYSTEM or PLAYBUS Domestic Range

FLUORESCENT LAMPS



LOADS WITH STAND-BY





Special attention is required if there are loads with stand-by positions in the bedroom, such as TVs, for example. In this case, the sockets the load is connected to must be controlled with a one-way switch. Also, the basic load must be installed in parallel with the socket.

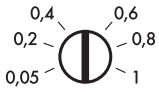
PROGRAMMING

MULTIFUNCTION TIMER

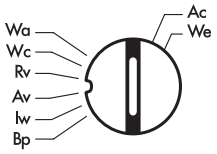
TECHNICAL DATA	
Control voltage (V)	110...240 a.c. (-15%...+10%) 24 a.c./d.c. (±10%)
Output relay (A):	1 change-over contact 8A-250V
Minimum uninterrupted current (mA):	100
Max. output relay voltage (V):	250 a.c.
Nominal impulse voltage Uimp (kV):	4
Nominal frequency (Hz):	50-60
Timing:	0.05s...240h
Absorbed power	
24V a.c.	1.5VA
110V a.c.	2VA
230V a.c.	8VA
24V d.c.	1W
Electric operations:	400.000 cycles
Max. no. of operations in 1 hour:	3,600
Service factor:	100 %
Repetition precision:	0.5%
Reset time (ms):	100
Protection class:	IP20
Operating temperature (°C):	-25...+55
Maximum conductor cross-section (mm²):	4

The multifunction timer permits the power supply and cut-off for a load for a set time (adjustable from 0.05s to 240h). The cycle can be repeated several times until the timer cuts off (intermittent operation).

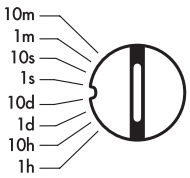
End of delay time adjustment



Operation statuses

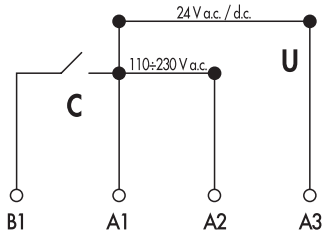


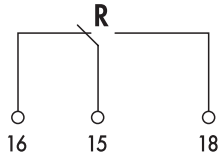
Delay time adjustment



Wa: activation on opening of the control contact
Wc: activation on closing of the control contact
Rv: opening delay
Av: activation delay
Iw: pulse control
Bp: blinking
Ac: delay on activation with control contact
We: activation with voltage control

FUNCTIONAL DIAGRAMS





C: control contact
U: relay supply
R: output contact

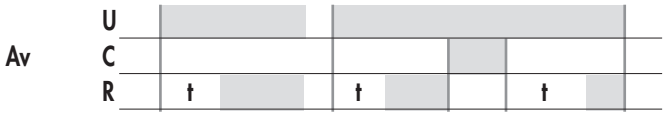
PROGRAMMING

MULTIFUNCTIONAL TIMER OPERATING STATUSES

We: activation with voltage control

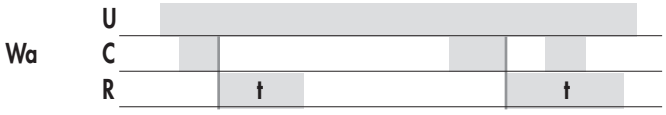
By providing the supply voltage **U**, the relay **R** changes over for the set time **t**. If the supply voltage **U** is disconnected before the pulse has ended, the time that has gone by is cancelled and the new cycle starts from zero. If the supply voltage **U** remains connected at the end of the cycle, a new cycle can be started with the opening of the contact **C**. The closing of **C** during or after the cycle has no effect.

Av: activation delay



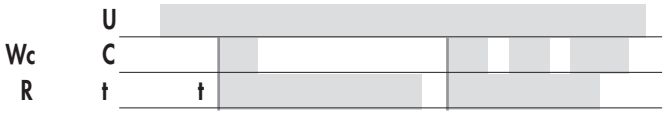
The **R** relay energizes after connection of the supply voltage **U** and after the set time **t** elapses; it remains energised as long as the supply voltage **U** continues. Additional function: the relay **R** de-energizes when the control contact **C** is closed. When **C** reopens, the **t** cycle starts again.

Wa: activation on opening of the control contact



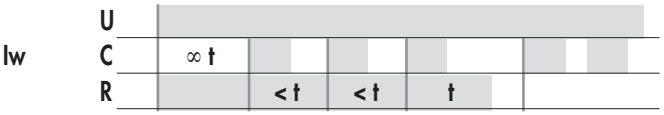
The supply voltage **U** is constantly maintained. The closing of the control contact **C** does not affect the output relay **R**. The opening of **C** causes activation of **R** for the set time **t**.

Wc: activation on closing of the control contact



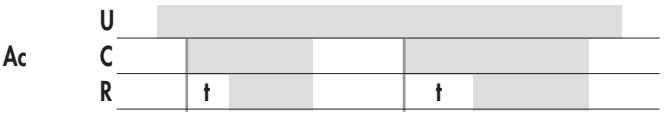
The supply voltage **U** is constantly maintained. The relay **R** instantaneously changes over when the control contact **C** closes and continues for the set time **t**. The change of status of C during the cycle has no effect on **R**; a new cycle can be started only at the end of the set time **t** (not resettable).

Iw: pulse control



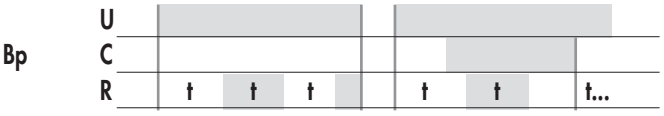
By providing the supply voltage **U**, the relay **R** energizes without taking into account the control input **C**. On the first closing of **C**, **R** energizes for the time **t**; any additional closing of **C** during **t** makes **t** start again. If there is no pulse command of **C** during **t**, **R** de-energizes once **t** has finished and remains de-energized. Relay **R** is reset by interrupting the supply voltage **U**.

Ac: delay on activation with control contact



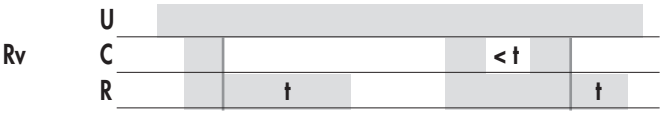
The supply voltage **U** is constantly maintained. On closing of the control contact **C**, the calculation of **t** starts. After **t** has elapsed, the relay **R** energizes and remains energised as long as the control **C** is open and the supply voltage **U** is disconnected.

Bp: blinking



By providing the supply voltage **U**, the relay **R** starts to turn on and off for the time **t** (the cycle lasts as long as the supply **U** is present). When the control contact **C** is closed, the sequence continues and ends with the next interval; it starts again with the interval **t** when **C** is opened.

Rv: opening delay



By providing the supply voltage **U** and following closing of the control contact **C**, the relay **R** changes over. Upon opening of **C**, **R** de-energizes after the set time **t** (or immediately if **U** is removed). If **C** is closed again before the set time **t** has expired, the cycle **t** in progress is cancelled and starts again when **C** is opened again.

PROGRAMMING

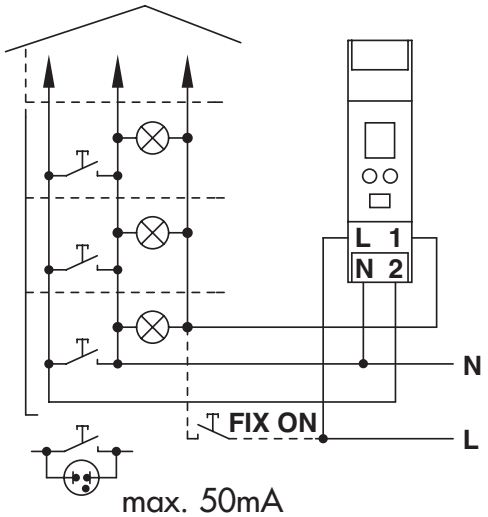
STAIRCASE LIGHT TIMER

TECHNICAL DATA

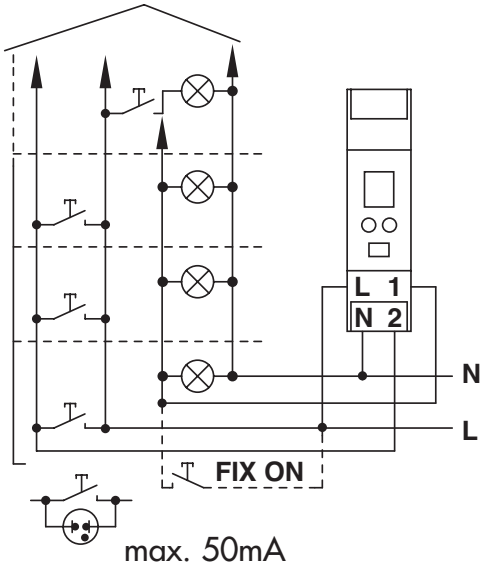
		NORMAL	WITH SWITCH-OFF WARNING
Reference Standard:		EN 60669-1/2-1	EN 60669-1/2-1
Nominal voltage Un (V):		230 a.c.	230 a.c.
Nominal insulating voltage Ui (V):		250 a.c.	250 a.c.
Nominal frequency (Hz):		50	50
Time adjustment:		30s...20min	30s...99.5min
Output contact:		1NO - 16A-230V-cosφ= 1	1NO - 16A-230V-cosφ= 1
Max. lamp power:			
	incandescent lamps (W)	2300	2300
	power factor corrected fluorescent lamps (W)	1100	1100
	halogen lamps (W)	2300	2300
	inductive loads cosφ= 0.6 (A)	10	10
Type of connection:		3 or 4 wires	3 or 4 wires
Operation:		automatic/fixed ON	automatic/fixed ON
Dissipated power (VA):		1.3	1.3
Connectable back-lit push buttons (mA):		50	50
Protection class:		IP20	IP20
Operating temperature (°C):		-15...+40	-15...+40
Maximum conductor cross-section (mm²):		6	6

FUNCTIONAL DIAGRAMS

3-wire connection



4-wire connection



PROGRAMMING

ANALOGUE TIMER SWITCHES

TECHNICAL DATA

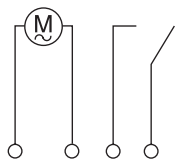
		GW 96 836	GW 96 831	GW 96 832
Reference Standard:		EN 60335-1/2-26	EN 60335-1/2-26	EN 60335-1/2-26
Type:		Daily	Daily	Weekly
Nominal voltage Un (V):		230 a.c.	230 a.c.	230 a.c.
		110 d.c.	130 d.c.	110 d.c.
Nominal frequency (Hz):		50	50	50
Output contact:		1NO	1 change-over	1 change-over
Change-over capacity:				
	resistive loads	16A-250V-cosφ= 1	16A-250V-cosφ= 1	16A-250V-cosφ= 1
	inductive loads	4A-250V-cosφ= 0.6	4A-250V-cosφ= 0.6	4A-250V-cosφ= 0.6
	Incandescent lamps	1000W	1350W	1350W
Minimum adjustment:		30min	30min	3h
Standby charge (h):		50	150	150
Operation:		automatic/fixed ON	automatic/fixed ON/fixed OFF	automatic/fixed ON/fixed OFF
Absorbed power (VA):		1	1	1
Protection class:		IP20	IP20	IP20
Operating temperature (°C):		-20...+55	-20...+55	-20...+55
Maximum conductor cross-section (mm²):		6	6	6
Sealable:		yes	yes	yes

DIGITAL TIMER SWITCHES

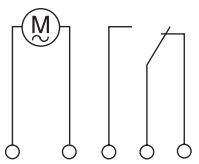
TECHNICAL DATA

		GW 96 841	GW 96 842	GW 96 843
Reference Standard:		EN 60669-1/2-1	EN 60669-1/2-1	EN 60669-1/2-1
Type:		Daily/Weekly	Daily/Weekly	Daily/Weekly
Nominal voltage Un (V):		230 a.c.	230 a.c.	230 a.c.
Nominal frequency (Hz):		50-60	50-60	50-60
Number of channels:		2	1	1
Output contact:		2 change-over	1 change-over	1 change-over
Change-over capacity:				
	resistive loads	16A-250V-cosφ= 1	16A-250V-cosφ= 1	16A-250V-cosφ= 1
	inductive loads	2.5A-250V-cosφ= 0.6	2.5A-250V-cosφ= 0.6	2.5A-250V-cosφ= 0.6
	Incandescent lamps	1000W	1000W	1000W
No. of memories		30	20	42
Min adjustment (min.):		1	1	1
Standby charge (h):		3 years	3 years	150h
Operation:		automatic/fixed ON/fixed OFF	automatic/fixed ON/fixed OFF	automatic/fixed ON/fixed OFF
Precision (s/day):		1	1	2.5
Absorbed power (VA):		5	5	5
Protection class:		IP20	IP20	IP20
Operating temperature (°C):		-20...+55	-20...+55	-20...+55
Maximum conductor cross-section (mm²):		6	6	6
Sealable:		yes	yes	yes

FUNCTIONAL DIAGRAMS - ANALOGUE SWITCHES

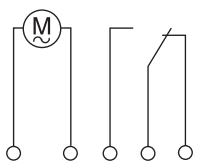


GW 96 836

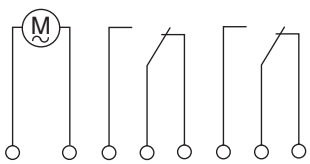


GW 96 831 - GW 96 832

FUNCTIONAL DIAGRAMS - DIGITAL SWITCHES



GW 96 843 - GW 96 842



GW 96 841

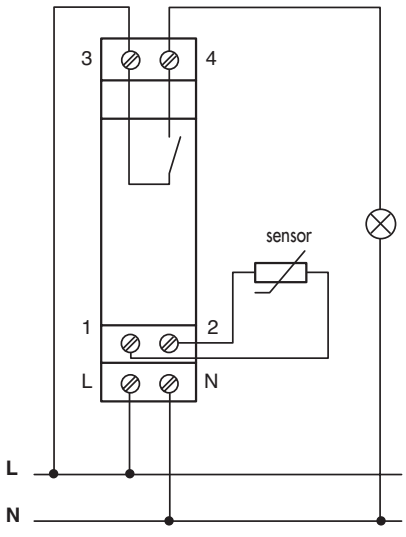
PROGRAMMING

PHOTOELECTRIC CELLS

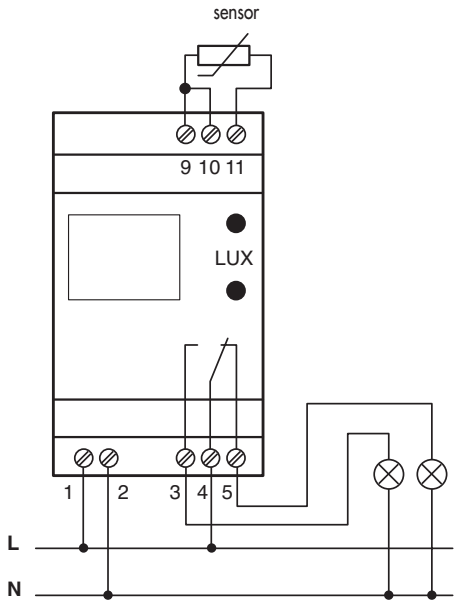
TECHNICAL DATA

		NORMAL	WITH DIGITAL TIMER SWITCH
Reference Standard:		EN 60669-1/2-1	EN 60669-1/2-1
Nominal voltage Un (V):		230 a.c.	230 a.c.
Nominal frequency (Hz):		50-60	50-60
Number of channels:		1	1
Output contact:		1 NO	1 change-over
Change-over capacity in AC			
	resistive loads	16A-250V	16A-250V
	inductive loads	8A-250V-cosφ= 0.6	8A-250V-cosφ= 0.6
	Incandescent lamps	2000W	2000W
Change-over capacity in DC (A)			
	resistive loads 24V	0.8	0.8
	resistive loads 60V	0.3	0.3
	resistive loads 220V	0.15	0.15
Brightness adjustment:		2...500 lux	2...500 lux
Change-over delay (s):			0...100
Clock type:			Daily/Weekly
Timer switch no. of memories:			20
Minimum timer switch adjustment (min.):			1
Timer switch standby charge:			3 years
Timer switch operation:			automatic/fixed ON/fixed OFF
Timer switch precision (s/day):			2.5
Absorbed power (VA):		5	2.5
Switch protection class:		IP20	IP20
Sensor protection class:		IP65	IP65
Switch operating temperature (°C):		-20...+55	-20...+55
Sensor operating temperature (°C):		-30...+70	-30...+70
Maximum conductor cross-section (mm²):		4	4

FUNCTIONAL DIAGRAMS



GW 96 892



GW 96 891

MEASUREMENT

VOLTMETERS AND AMMETERS

TECHNICAL DATA

	ANALOGUE	DIGITAL
Reference Standards:	EN 60051-1 / EN60051-2	
Auxiliary supply voltage Un (V):		230 a.c.
Nominal frequency (Hz):	50-60	15-100
Ammeter interchangeable scales and capacity (A):	10-20-30-40-50-60-100-150-250 400-600-1000-1200-1500	15-25-40-60-100-150 400-600-1000
Voltmeter scales:	300-500 a.c.	600 a.c.
Precision class:	1.5	1.5
Ammeter overloadability:	10 In for 1s / 2 In continuous	1.2 In continuous
Voltmeter overloadabilty:	2 Vn for 5s / 1.2 Vn continuous	1.2 Vn continuous
Test voltage:	2 kV for 1 min	
Mounting position:	vertical / horizontal	
Absorbed power (VA):	0.3 ammeters	0.5 ammeters
	1.5 voltmeters	1.5 voltmeters
Protection class:	IP20	IP20
Operating temperature (°C):	-10...+55	-10...+55
Maximum conductor cross-section (mm^2):	6	6

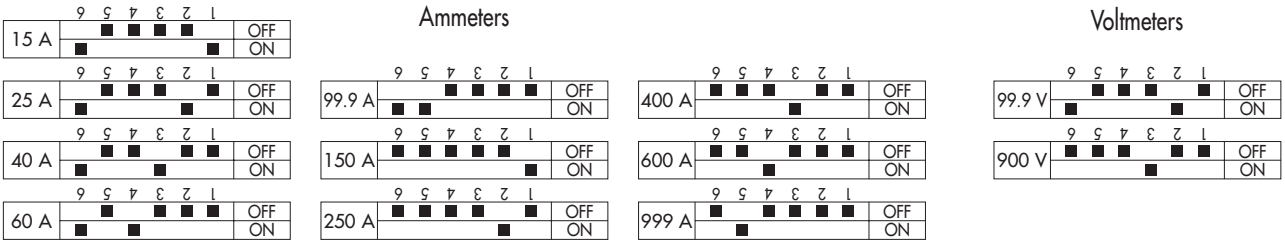
Analogue voltmeters and ammeters

Indicator instruments of the electromagnetic type made up of a movable coil element. The voltmeter is the direct activation type with 0-300/0-500V scale. The ammeters of 10 - 20 - 30A capacity are with direct activation, whereas the GW 96 878 ammeter, allows currents up to 1500A to be measured thanks to use of the expedient TA and relative scale.

Digital voltmeters and ammeters

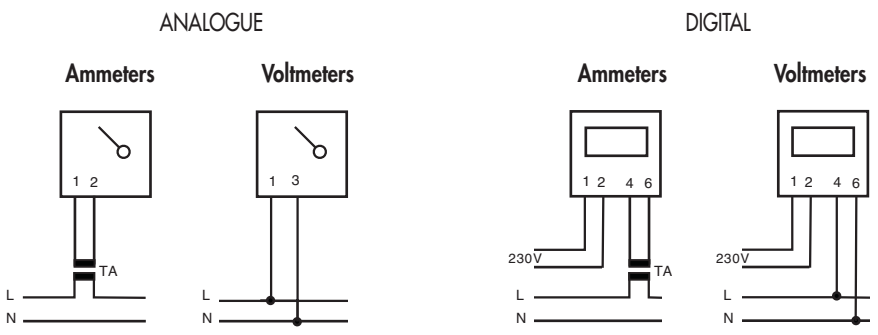
The digital instrument with completely electronic operation ensure high precision and long service life owing to the absence of moving mechanical parts subject to wear and tear. The measurement is displayed on a red 3-digit digital multi-scale dial. The instruments are ready for selection of the capabilities using a minidip.

Move the contacts of the minidip as illustrated below in order to get the desired full scale.



The current transformers (.../5A) must have the primary current equal to the capacity pre-set on the instrument.

FUNCTIONAL DIAGRAMS



MEASUREMENT

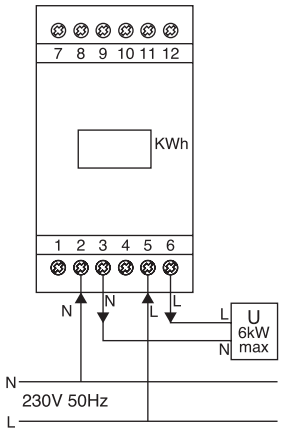
ENERGY METERS

TECHNICAL DATA			
	SINGLE-PHASE	THREE-PHASE DIRECT	THREE-PHASE WITH T.A.
Reference Standards:	EN 61036	EN 61036	EN 61036
Nominal voltage Un (V):	230 a.c.	400 a.c.	400 a.c.
Activation type:	Direct	Direct	Indirect
Nominal frequency (Hz):	40-60	40-60	40-60
Nominal current (A):	26	30	T.A. of 5A
Maximum current (A):	30	32	
Nominal Power (kW):	6		
Reading resolution (kWh):	0.01	0.1	0.1
Remote carry contact:		1NO	1NO
Output pulse frequency (imp/kWh):		10	adjustable 10/1/0.1
Output pulse duration (ms):		100	100
Max. output current with pulse:		0.5A - 100V a.c.	0.5A - 100V a.c.
Precision class:	1.5	1.5	1.5
Absorbed power (VA):	< 4	< 10	< 10
Protection class:	IP20	IP20	IP20
Operating temperature (°C):	0...+50	0...+50	0...+50
Maximum conductor cross-section (mm²):	6	6	6

FUNCTIONAL DIAGRAMS

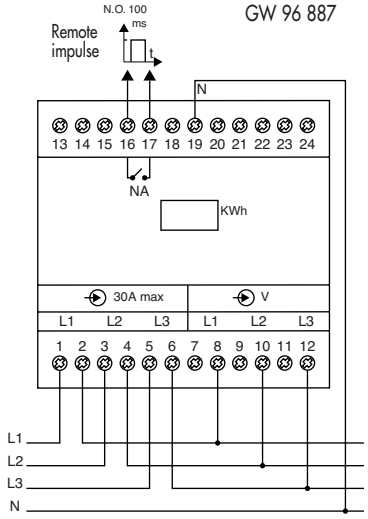
Single-phase meter

GW 96 886



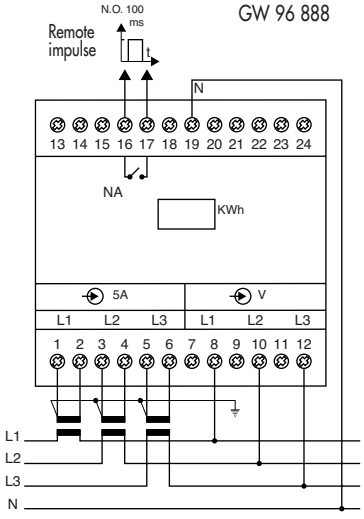
Three-phase meter with direct activation

GW 96 887



Three-phase meter with transformers

GW 96 888



HOUR METER

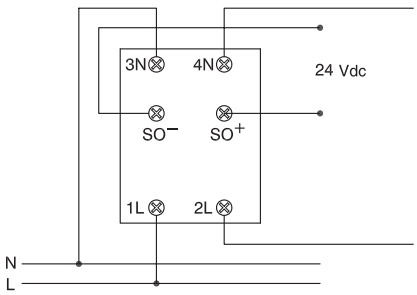
TECHNICAL DATA	
Reference Standard:	EN60335-1/2-26
Nominal voltage Un (V):	230 a.c.
Nominal frequency (Hz):	50
Digits displayed:	99,999.99
Repeatability:	Without
Absorbed power (VA):	1
Protection class:	IP20
Operating temperature (°C):	-25...+55
Maximum conductor cross-section (mm²):	10

Measurement

Compact single-phase power meter

TECHNICAL DATA	
Reference Standards:	EN 61036
Nominal voltage Un (V):	230 a.c.
Activation type:	direct
Nominal frequency (Hz):	50
Nominal current (A):	5
Maximum current (A):	25
Reading resolution (kWh):	0.1
Remote carry contact:	1NO "open collector"
Max. pulse output voltage (V):	30 d.c.
Max. pulse output current (mA):	20
Output pulse frequency (imp/kWh):	1000i/kWh
Pulse output duration (ms):	50
Precision class:	1
Approvals:	PTB
Absorbed power (VA):	9
Protection class:	IP20
Operating temperature (°C):	-10°...+45
Max. conductor cross-section (mm ^{2}):	6 input 2.5 output

Functional diagram



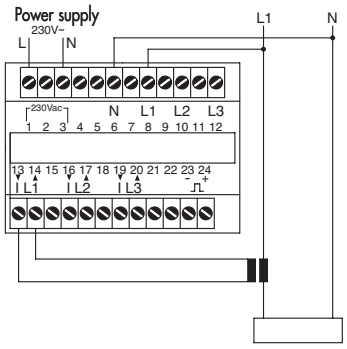
Measurement

Mains analyser

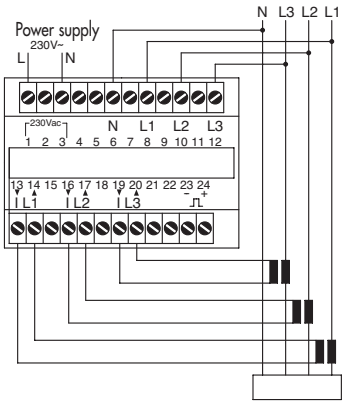
TECHNICAL DATA	
Reference Standard:	EN 61010
Supply voltage Un (V):	230 a.c. ±10%
Measurement voltage (V):	230 (phase-neutral) - 400 (phase-phase)
Nominal impulse voltage Uimp (kV):	4
Activation:	Indirect with T.A. of 5A
Nominal frequency (Hz):	50-60
Quantities measured:	phase and line voltage, phase currents, power factor active and reactive power, active and reactive energy
Digits measured:	3 instantaneous measurement units 6 energy measurement units
Resolution:	automatic
Measurements with remote carry:	active or reactive energy
Type of pulse output (ms):	to transistor "open collector"
Output pulse voltage:	VON 0.6V d.c. (max) - 4mA VOFF 26V d.c. (max)
Output pulse duration:	20ms VON - 20ms (min.) VOFF
Output pulse frequency (imp/kWh):	adjustable from 0.1 to 1000
Precision:	1%
Overloadability:	1.2In
Reading update (s):	1
Absorbed power (VA):	5
Protection class:	IP20
Operating temperature (°C):	0...+50
Storage temperature (°C):	-10...+60
Maximum conductor cross-section (mm^2):	2.5

Functional diagrams

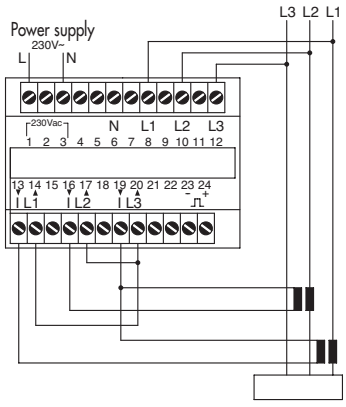
Single-phase activation with TA



Three-phase activation with neutral



ARON activation

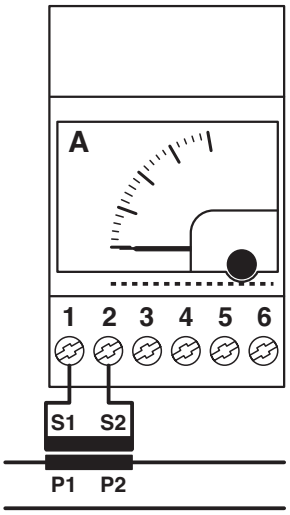


MEASUREMENT

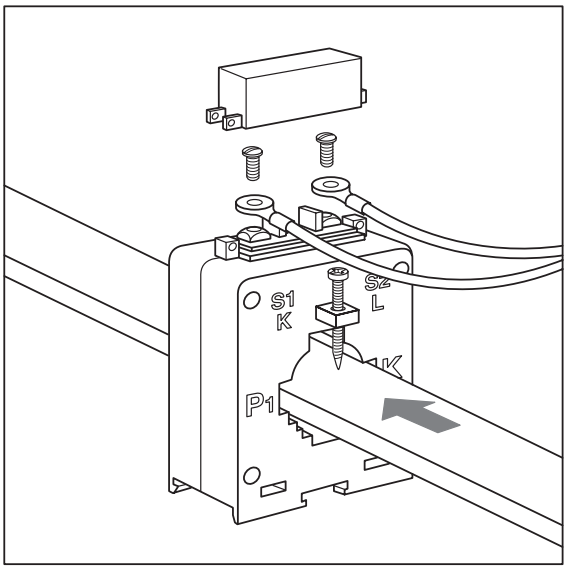
CURRENT TRANSFORMERS

TECHNICAL DATA	
Reference Standards:	EN 60044-1
Secondary current (A):	5
Nominal frequency (Hz):	50-60
Test voltage:	6kV a 50Hz for 1 min.
Overloadability:	1.2In
Dynamic shorting current:	2.5Ith
Safety factor:	< 5
Protection class:	IP30
Operating temperature (°C):	-20...+50
Storage temperature (°C):	-40...+80
Relative humidity:	80%
Maximum conductor cross-section (mm²):	10

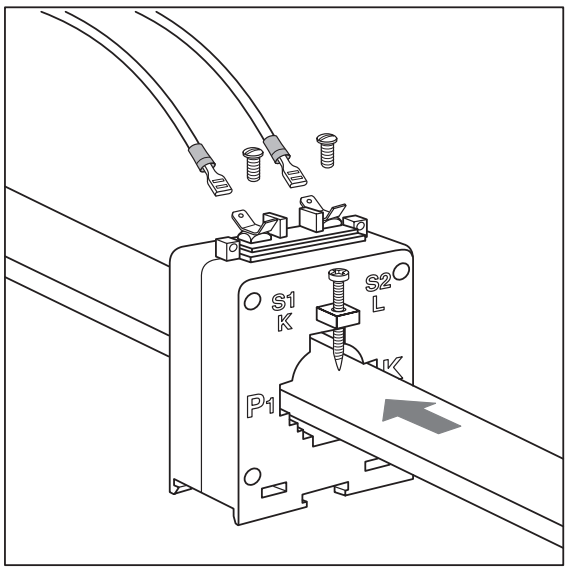
CONNECTION DIAGRAM



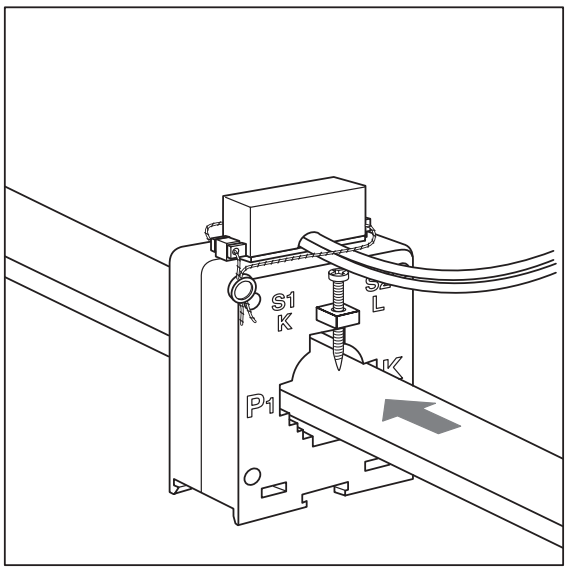
CONNECTION WITH CABLE TERMINAL



CONNECTION WITH FAST-ON (6.3 MM)



TERMINAL COVER FIXING AND SEALING

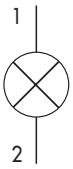


SIGNALLING

SIGNALLING LAMPS

TECHNICAL DATA		
	230V	24V
Nominal voltage Un (V):	230 a.c.	24 a.c.
Nominal frequency (Hz):	50-60	50-60
Type of lamp:	fluorescent coupling E10	incandescent coupling E10
Max. lamp power (W):	2	2
Operating temperature (°C):	-5...+40	-5...+40
Maximum conductor cross-section (mm^2):	4	4

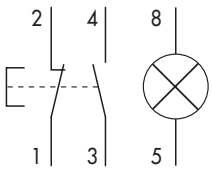
FUNCTIONAL DIAGRAMS



BACK-LIT PUSH-BUTTONS

TECHNICAL DATA		
	230V	24V
Reference Standard:	EN 60947-5-1	EN 60947-5-1
Nominal voltage Un (V):	230 a.c.	230 a.c.
Lamp voltage (V):	230 a.c.	24 a.c.
Nominal current (A):	16	16
Nominal frequency (Hz):	50-60	50-60
Type of contacts:	1NO + 1NC	1NO + 1NC
Type of lamp:	fluorescent coupling E10	incandescent coupling E10
Max. lamp power (W):	2	2
Mechanical operations:	20.000	20.000
Operating temperature (°C):	-5...+40	-5...+40
Maximum conductor cross-section (mm^2):	4	4

FUNCTIONAL DIAGRAMS



SIGNALLING

BELLS AND BUZZERS

TECHNICAL DATA

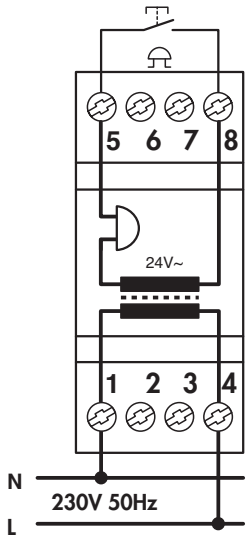
	Bells	Bell + transformer	Buzzers	Buzzer + transformer	Bells + Buzzer + transformer
Nominal voltage Un (V):	12-230 a.c.	230 a.c.	12-230 a.c.	230 a.c.	230 a.c.
Nominal frequency (Hz):	50-60	50	50-60	50	50
Nominal secondary voltage Un (V):		24 a.c.		24 a.c.	24 a.c.
Sound level at 1m (dB):	84	80	80	70	80 bell. - 70 buzzer.
Absorbed power (VA):	- 5 12V version 10 230V version	6.1	- 5 12V version 10 230V version	6.1	3.8+3.8
Protection class:	IP20	IP20	IP20	IP20	IP20
Operating temperature (°C):	-10...+55	-10...+55	-10...+55	-10...+55	-10...+55
Maximum conductor cross-section (mm²):	6	6	6	6	6

BELL TRANSFORMERS

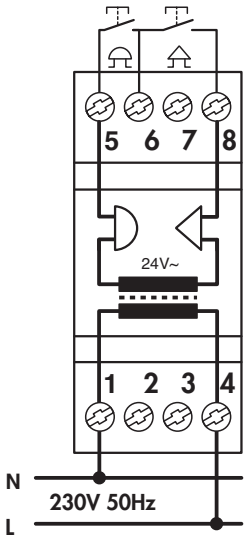
TECHNICAL DATA

Reference Standards:	EN 61558-1 / EN 61558-2-8
Nominal primary voltage Un (V):	230 a.c.
Nominal secondary voltage Un (V):	4+8=12 / 12+12=24
Secondary voltage change at full load:	15%
Insulation class:	II
Nominal power (VA):	5 - 10 - 15 - 30 - 40
Protection class:	IP20
Operating temperature (°C):	-10...+40
Maximum conductor cross-section (mm²):	6

FUNCTIONAL DIAGRAMS - BELLS AND BUZZERS

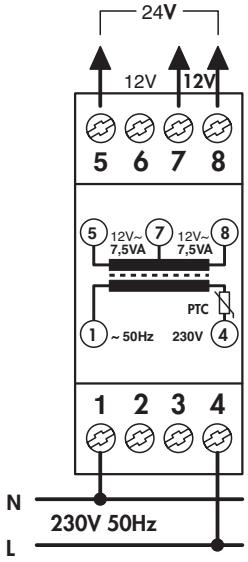


GW 96 403

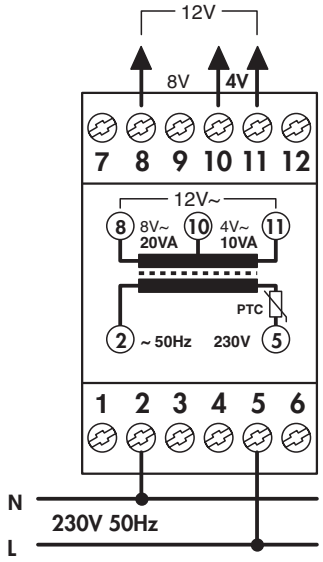


GW 96 411

FUNCTIONAL DIAGRAMS - BELL TRANSFORMERS



GW 96 426



GW 96 431

SIGNALLING

SAFETY TRANSFORMERS

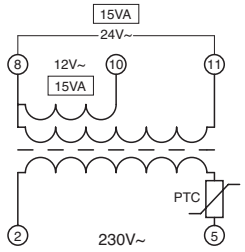
TECHNICAL DATA	
Reference Standards:	EN 61558-1 / EN 61558-2-6
Nominal primary voltage Un (V):	230 a.c.
Nominal secondary voltage Un (V):	12-24 a.c.
Secondary voltage change at full load:	5%
Nominal frequency (Hz):	50
Nominal power / Dissipated power loadless:	

code	Secondary voltage 12V	Secondary voltage 24V
GW 96 321	15 VA	15 VA
GW 96 322	25 VA	25 VA
GW 96 323	40 VA	40 VA
GW 96 324	63 VA	63 VA

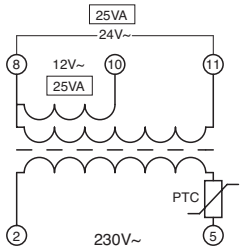
code	[W]
GW 96 321	0.9
GW 96 322	0.9
GW 96 323	1.4
GW 96 324	1.8

Insulation class:	II
Protection class:	IP20
Maximum conductor cross-section (mm²):	6
Resisting short-circuiting not for construction:	yes

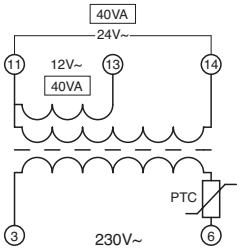
FUNCTIONAL DIAGRAMS



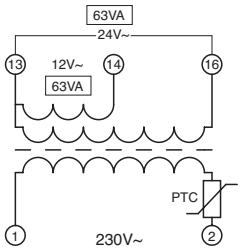
GW 96 321



GW 96 322



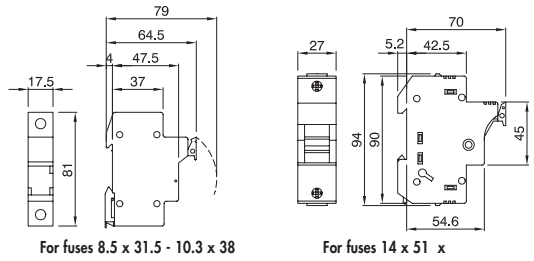
GW 96 323



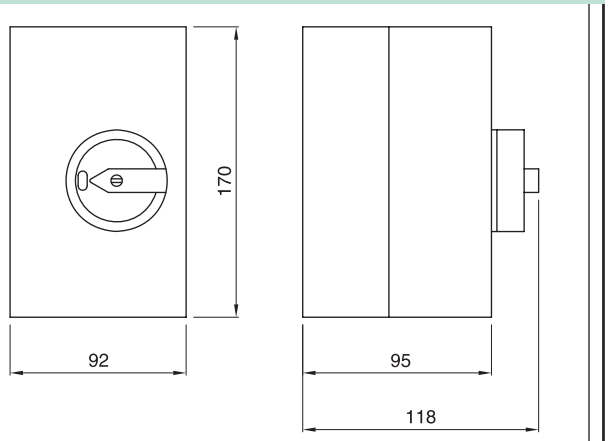
GW 96 324

DIMENSION TABLES

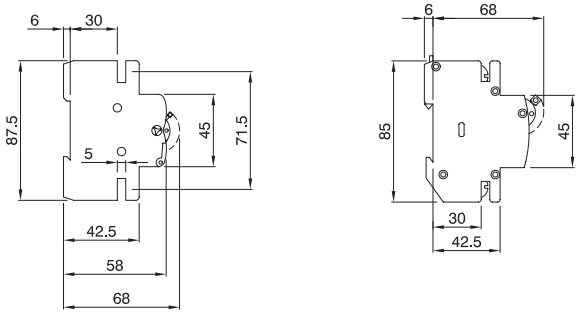
DISCONNECTABLE FUSE-HOLDERS



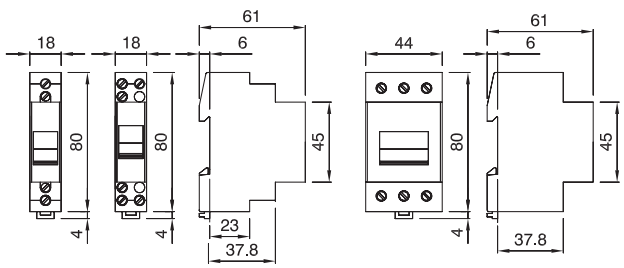
SURFACE MOUNTING BOX FOR OVERLOAD CUT-OUTS



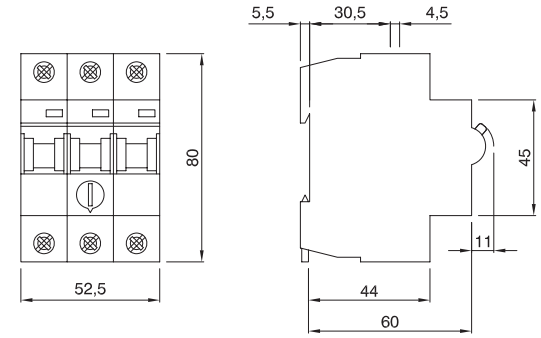
DISCONNECTING SWITCHES



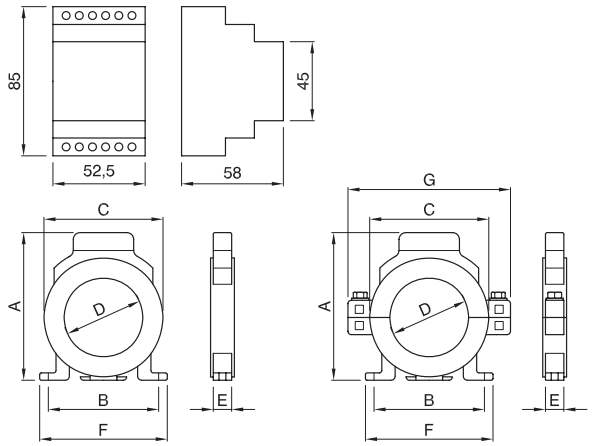
ON-OFF SWITCHES



OVERLOAD CUT-OUTS

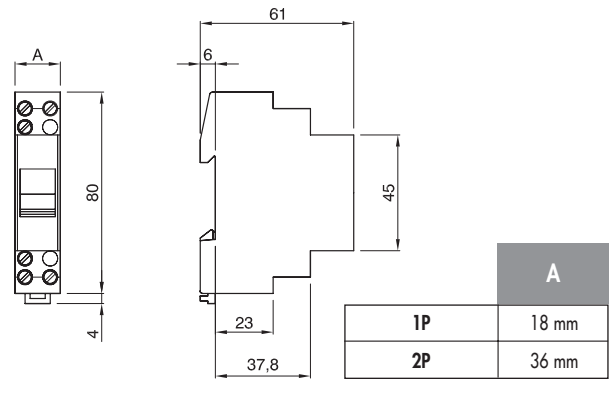


RESIDUAL CURRENT RELAYS AND CORES



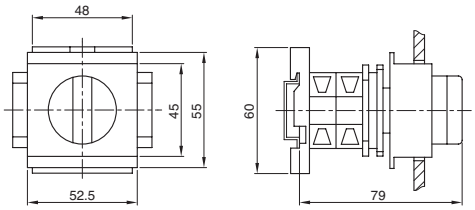
	D	A	B	C	E	F	G
GW 96 332	35	118	90	78.5	27	104	
GW 96 333	80	163	110	114.5	27	117	
GW 96 334	110	198	140	150.5	32	155	
GW 96 335	210	298	210	250.5	32	227	
GW 96 336	110	198	140	150.5	32	155	198
GW 96 337	210	298	210	250.5	32	227	296

LEVER SWITCHES

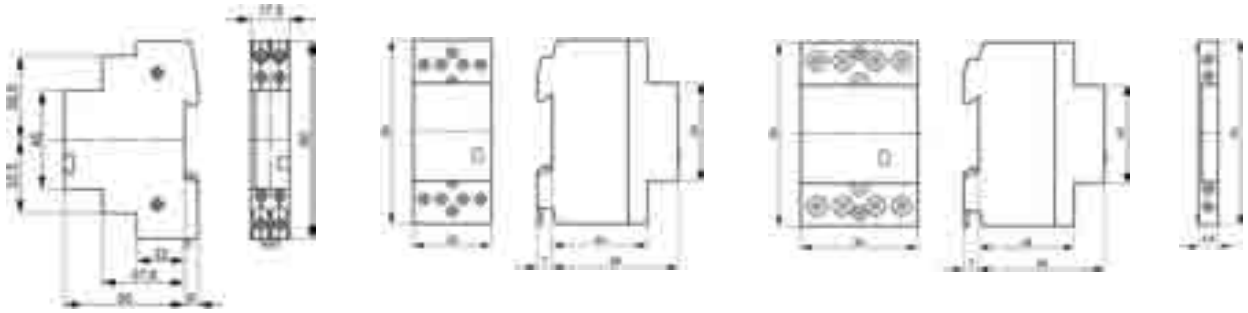


	A
1P	18 mm
2P	36 mm

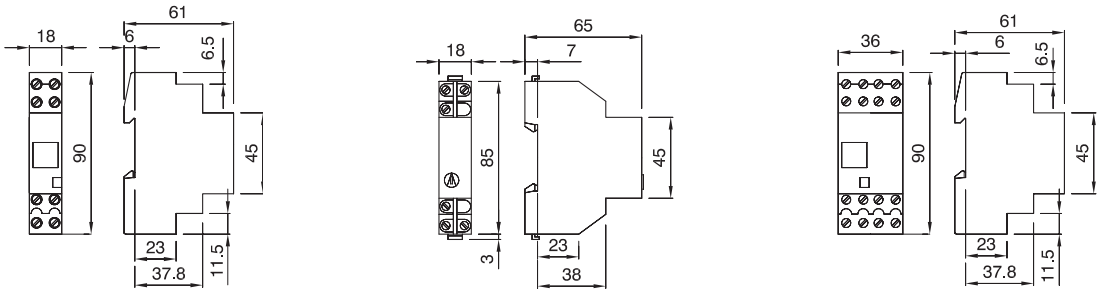
SWITCHES



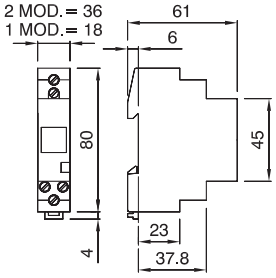
CONTACTORS



MOMENTARY RELAYS

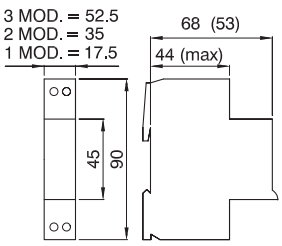


LATCHING RELAY

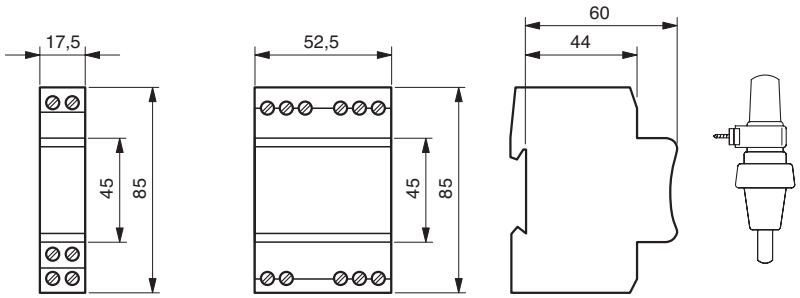


DIMENSION TABLES

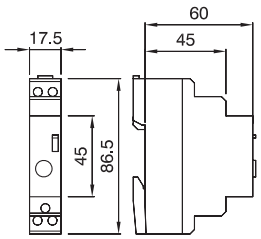
HOUR METERS



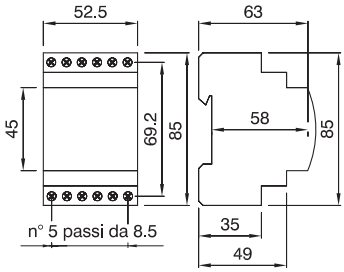
PHOTOELECTRIC CELLS



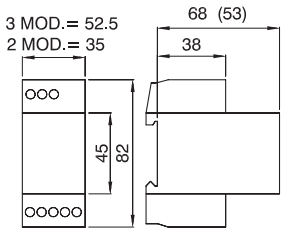
STAIR LIGHT TIMER



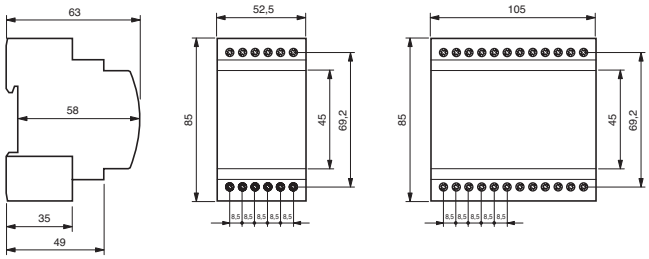
VOLTMETERS AND AMMETERS



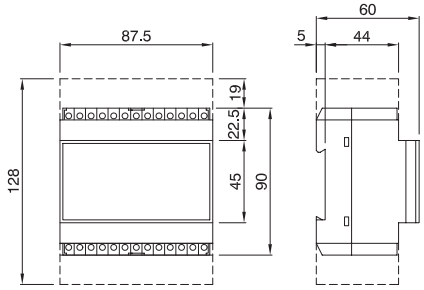
HOUR METER



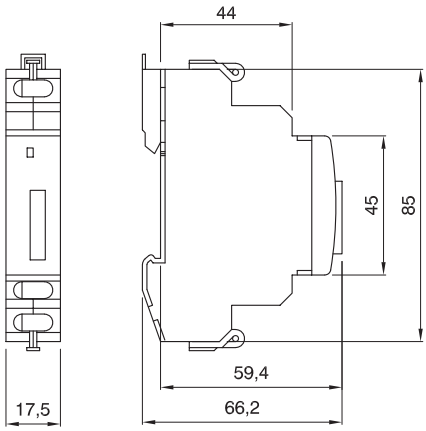
ENERGY METERS



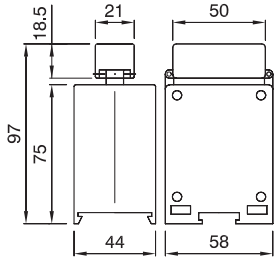
MAINS ANALYSER



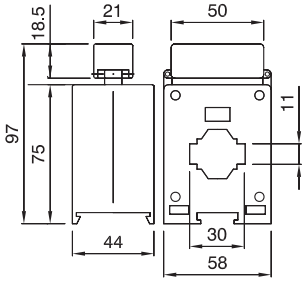
COMPACT POWER METER



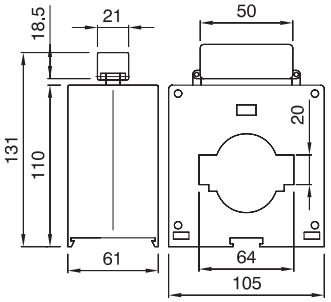
CURRENT TRANSFORMERS



15 - 25/ 5A

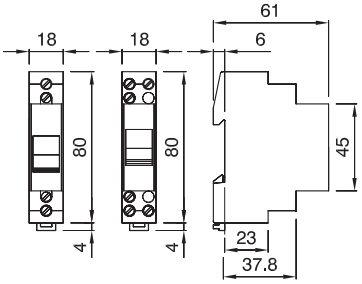


40 - 60 - 100 - 150 - 250 - 400 - 600 /5A

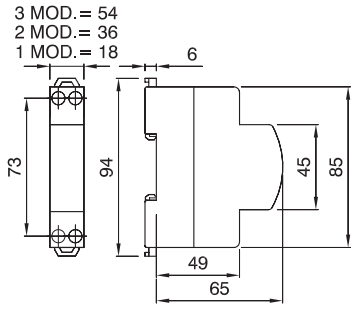


1000 - 1200 - 1500 / 5A

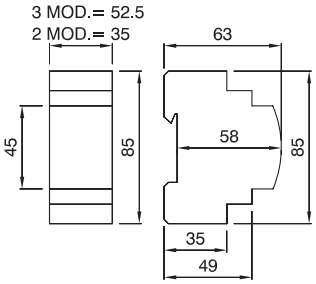
LAMPS AND BACK-LIT PUSH-BUTTONS



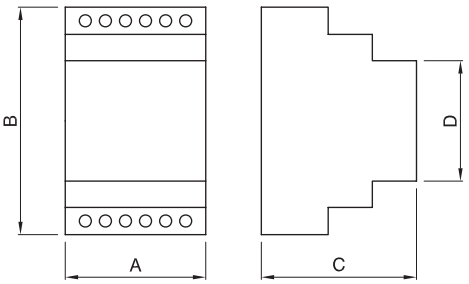
BELLS AND BUZZERS



BELL TRANSFORMERS



SAFETY TRANSFORMERS



	A (mm)	B (mm)	C (mm)	D (mm)
GW 96 321	52.5	85	58	45
GW 96 322	52.5	85	58	45
GW 96 323	70	85	58	45
GW 96 324	105	85	65	45