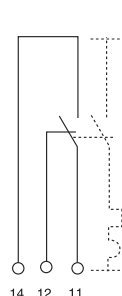


ACCESSORIES FOR MODULAR CIRCUIT BREAKERS

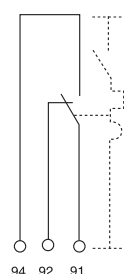
AUXILIARY CONTACTS AND SERVICE RELEASES

TECHNICAL DATA FOR SERVICE RELEASES			SHUNT TRIP RELEASES			UNDER VOLTAGE RELEASES		
Item code			GW 96 011	GW 96 012	GW 96 015	GW 96 016	GW 96 017	GW 96 018
Rated operational voltage (Ue): (V)	AC - 50Hz		12 24 48	110 — 415	230	230	24	48
	DC		12 24 48	110 125 —	—	—	24	48
Release trip: (V)	AC - 50 Hz		—	—	—	0.63Ue	0.54Ue	0.56Ue
	DC		—	—	—	—	0.57Ue	0.55Ue
Min. operating voltage: (V)	AC - 50Hz		8.4	77	170	—	—	—
	DC		8.4	77	—	—	—	—
Min. reset voltage: (V)	AC - 50Hz		—	—	—	0.67Ue	0.67Ue	0.68Ue
	DC		—	—	—	—	0.62Ue	0.69Ue
Max. operating voltage: (V)	AC - 50Hz		52.8	456.5	440	—	—	—
	DC		52.8	137.5	—	—	—	—
Max release duration: (ms)			< 10	< 10	< 10	—	—	—
Opening time: (ms)			< 10	< 10	< 10	—	—	—
Delay opening time: (ms)			— — —	— — —	—	300	300	300
Pick-up current: (A)			1.2 2.4 4.8	0.22 0.25 0.84	—	—	—	—
Holding current: (mA)			— — —	— — —	—	12	10	12
Pick-up power consumption: (VA in AC and W in DC)			14.4 57.6 230.4	24.4 31.6 348	—	—	—	—
Holding power consumption: (VA in AC and W in DC)			— — —	— — —	—	2.8	0.28	0.57
Coil resistance: (Ω)			10	495	360	—	—	—
Operating temperature: (°C)			-5...+55	-5...+55	-5...+55	-5...+55	-5...+55	-5...+55
Max. cable section: (mm²)			2.5	2.5	2.5	2.5	2.5	2.5

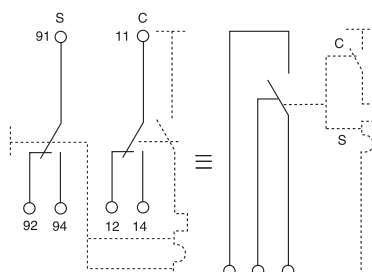
CIRCUIT DIAGRAMS - AUXILIARY CONTACTS



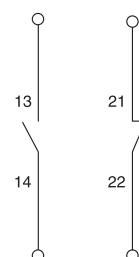
GW 96 001



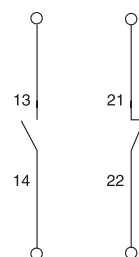
GW 96 006



GW 96 009

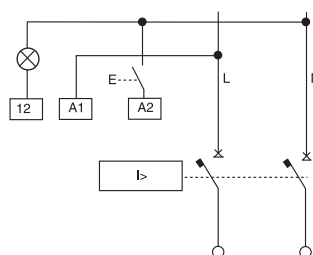


GW 96 003
GW 96 005

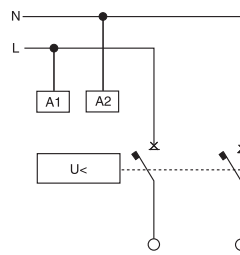


GW 96 004

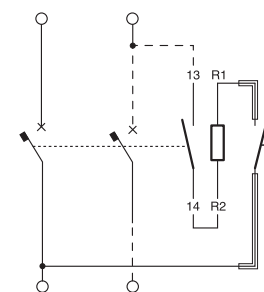
CIRCUIT DIAGRAMS - SERVICE RELEASES



GW 96 011
GW 96 012



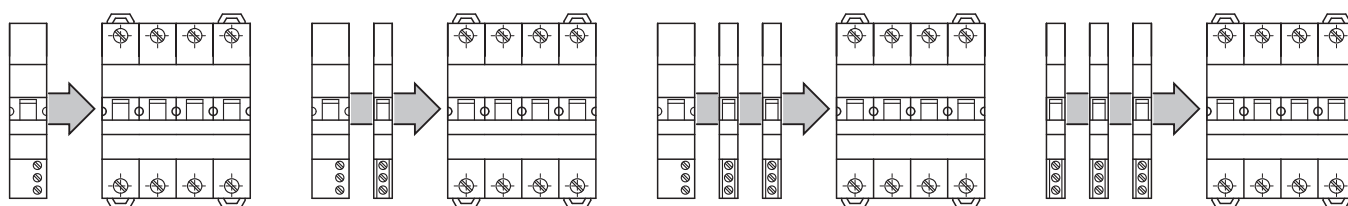
GW 96 016
GW 96 017
GW 96 018



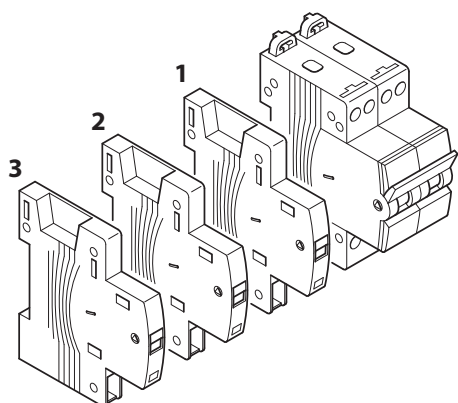
GW 96 015

MTC - MT - MTHP - MDC

Up to max. 3 accessories can be fitted to each circuit breaker. Both the service releases and the auxiliary contacts must be positioned on the circuit breakers' left side. Moreover, it is possible to fit the open/closed auxiliary contact to the switch-disconnectors.



If more than one auxiliary contact is used, it is necessary to observe the connection 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	

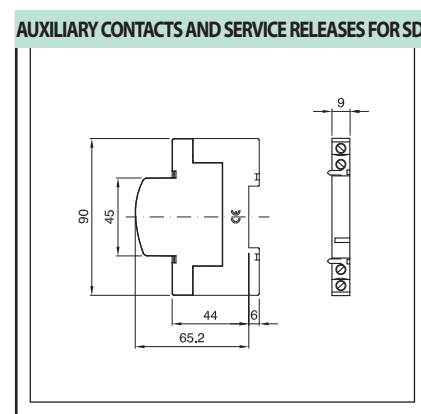
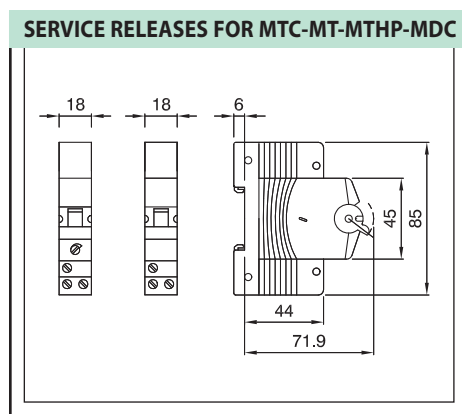
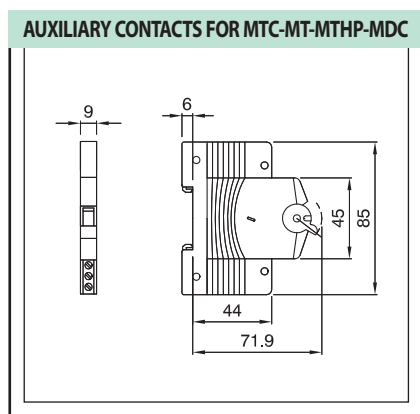
GW 96 009c code: open/closed auxiliary contact set

GW 96 009s code: release trip auxiliary contact set

SD

Up to max. 2 accessories can be fitted to each 4-poles residual current circuit breaker. Both the service releases and the auxiliary contacts must be positioned to the residual current circuit breakers' right side. Actually, the release trip auxiliary contact must be positioned next to the residual current circuit breaker in case of two accessories.

DIMENSION TABLES



BUSBARS

TECHNICAL DATA

Rated operational voltage (Ue):	(V)	400 AC
Conditional short-circuit current with fuse:	(kA)	25 (gL 100A)
Rated impulse withstand voltage (Uimp):	(kV)	4

PROTECTION

DISCONNECTABLE FUSE HOLDERS

TECHNICAL DATA

Fuse dimension:	(mm)	8.5 x 31.5	10.3 x 38	14 x 51
Standards:		EN 60947-3	EN 60947-3	EN 60947-3
Rated current (In):	(A)	20	32	50
Rated operational voltage (Ue):	(V)	400 AC	690 AC	690 AC
Rated insulation voltage (Ui):	(V)	400 AC	690 AC	690 AC
Rated impulse withstand voltage (Uimp):	(kV)	8	8	8
Utilization category:		AC-22B	AC-22B	AC-22B
Rated conditional short-circuit current:	(kA)	50	100	100
Power loss per single pole at In:	(W)	2,5	3	5
Degree of protection:		IP20	IP20	IP20
Operating temperature:	(°C)	-10...+40	-10...+40	-10...+40
Max. cable-section:	(mm²)	25	25	35

CIRCUIT DIAGRAMS

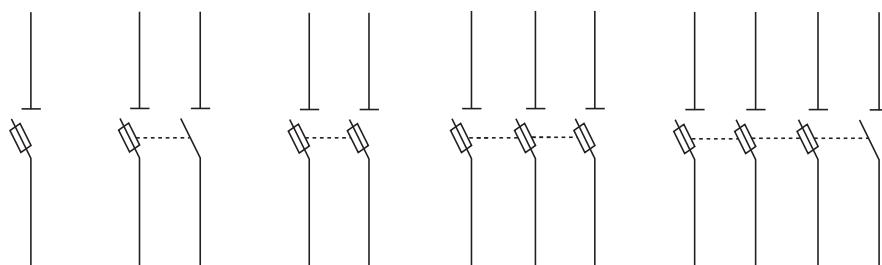
1P

1P+N

2P

3P

3P+N



GW 96 206

GW 96 216

GW 96 301

GW 96 306

GW 96 311

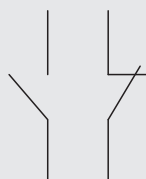
MOTOR PROTECTION SWITCHES

TECHNICAL DATA			
Standards:	EN 60947-2		
Rated operational voltage (Ue): (V)	230-400 AC		
Rated insulation voltage (Ui): (V)	440 AC		
Rated impulse withstand voltage (Uimp): (kV)	4		
Rated current (In): (A)	0.16...40		
Rated frequency: (Hz)	50-60		
Thermal protection setting Range operating current (A)	Breaking capacity 230V/400V (Icu) (kA)		
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		
Rated current (In) (A)	Thermal protection setting Range operating current (A)]	Max. operating power in AC3 230 V (P) (kW)	Max. operating power in AC3 400 V (P) (kW)
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
Mechanical endurance (No. total operations):	20000		
Electrical endurance in AC3 (No. total operations):	6000		
Suitable for isolation:	yes		
Upstream/downstream power supply:	yes		
Rated current (In) (A)	Power loss (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		
Degree of protection:	IP20		
Operating temperature: (°C)	-25 +70		
Max. cable-section: (mm²)	25		

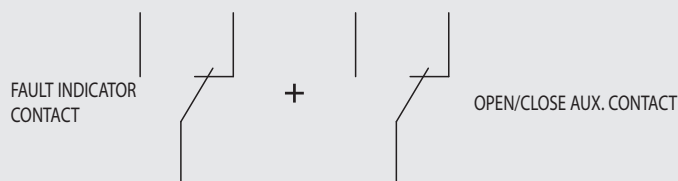
TECHNICAL DATA FOR AUXILIARY CONTACTS

Operating current in AC15 :	(A)	2 (250V AC)
Operating current in AC13 :	(A)	3 (250V AC)
Operating current in DC12 :	(A)	0.5 (110V DC)
Max. cable-section:	(mm ²)	2.5

GW 96 764 - OPEN/CLOSE AUX. CONTACT (NO + NC)



GW 96 765 - FAULT INDICATOR CONTACT



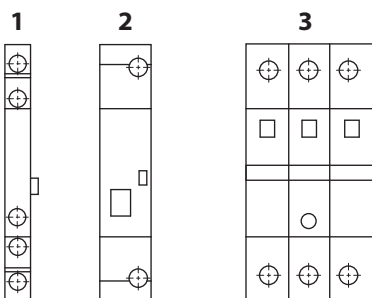
TECHNICAL DATA FOR SHUNT TRIP RELEASE

Pick-up current:	(A)	1.4 (230V)
Max. cable-section:	(mm ²)	2.5

TECHNICAL DATA FOR UNDER VOLTAGE RELEASES

Min. reset voltage:	(V)	0.8 Ue
Release trip:	(V)	0.5 Ue
Consumption:	(VA)	3 (230V) - 5 (400V)
Max. cable-section:	(mm ²)	2.5

CONNECTION RULES

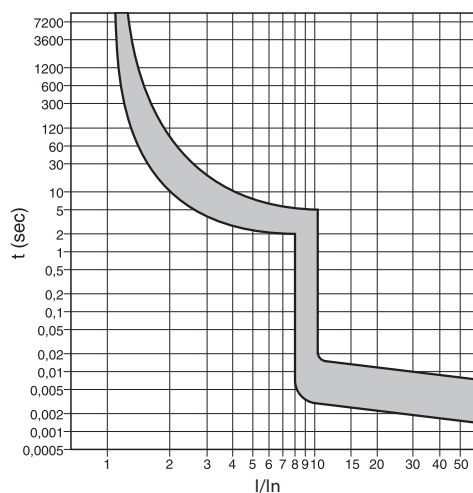


Motor protection circuit breaker (3) with:

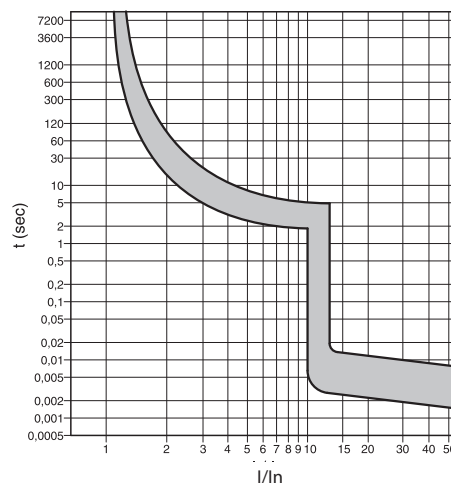
Open/close aux. contact (1)	fault indicator contact (1)	Shunt trip release (2)	Under voltage release (2)
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.

CHARACTERISTIC CURVES

RATED CURRENT In 0.16/0.25/0.40/0.63/10A



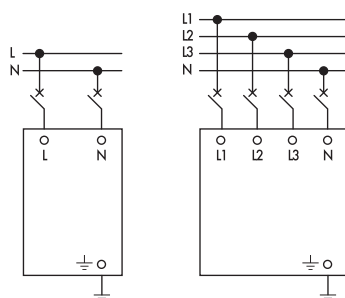
RATED CURRENT In 1/1.6/2.5/4/6.3/16/25/40A



SURGE PROTECTIVE DEVICES (SPD)

TECHNICAL DATA		
Standards:		EN 61643-11
Rated operational voltage (Ue):	(V)	230 (1P+N) - 400 (1P and 3P+N)
Continuous operating voltage (Uc):	(V)	275 (1P+N) / 440 (1P and 3P+N)
Maximum discharge current (Imax) (waveshape 8/20µs):	(kA)	15 (for GW 96466 - GW 96467 - GW 94468) 40 (for GW 96471 - GW 96472 - GW 94473)
Rated discharge current (In) (waveshape 8/20µs):	(kA)	5 (for GW 96468 - GW 96466 - GW 94467) 40 (for GW 96471 - GW 96472 - GW 94473)
Class test:		II
Voltage protection level (Up):	(kV)	1.2 (1P+N and 3P+N) - 1.8 (1P)
Response time:	(ns)	< 25
Protection mode:		3+1 (4P) - 1+1 (2P) / Common and differential mode
Continuous operating current (Ic):	(mA)	< 1
Back-up protection:		Fuse: for Imax 40kA gG 50A (14x51 mm); for Imax 15kA gG 25A (10.3x38 mm) Miniature circuit breaker: In ≤ 25A
State indicator:		yes
Degree of protection:		IP20
Operating temperature:	(°C)	-20 +40
Storage temperature:	(°C)	40 +70
Max. cable-section:	(mm²)	F/N 16 flexible cable, 25 rigid cable - T 35 flexible cable, 50 rigid cable

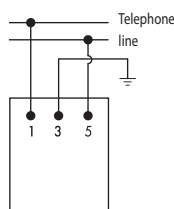
CIRCUIT DIAGRAMS



SURGE PROTECTIVE DEVICE FOR TELEPHONE LINES AND DATA COMMUNICATION

TECHNICAL DATA		
Rated operational voltage (Ue):	(V)	200 AC
Rated discharge current (In) (waveshape 8/20µs):	(kA)	10 (for 1 discharge) - 5 (for 20 discharges)
Voltage protection level (Up):	(kV)	0.7
Frequency band:	(MHz)	up to 100
Type of protection:		parallel
Operating temperature:	(°C)	-20 +40
Storage temperature:	(°C)	-40 +70
Max. cable-section:	(mm²)	2.5

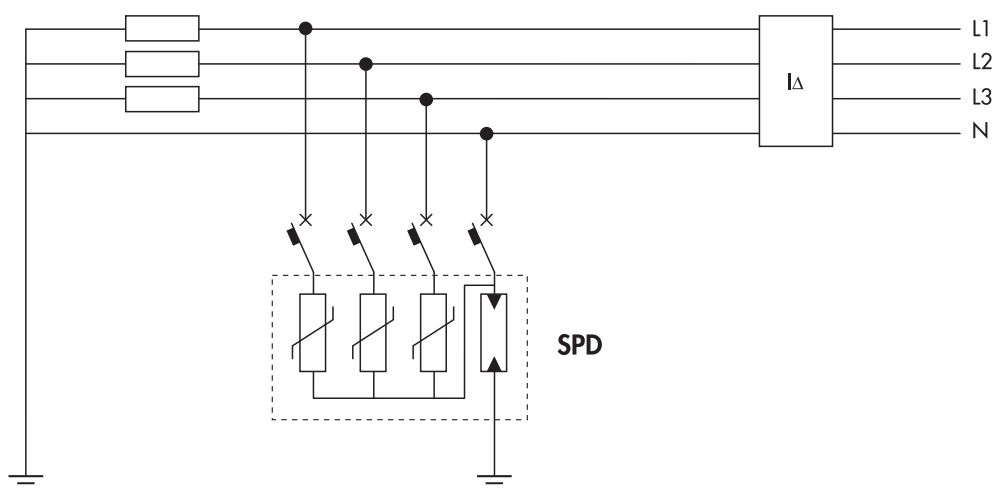
CIRCUIT DIAGRAM



SURGE PROTECTIVE DEVICES

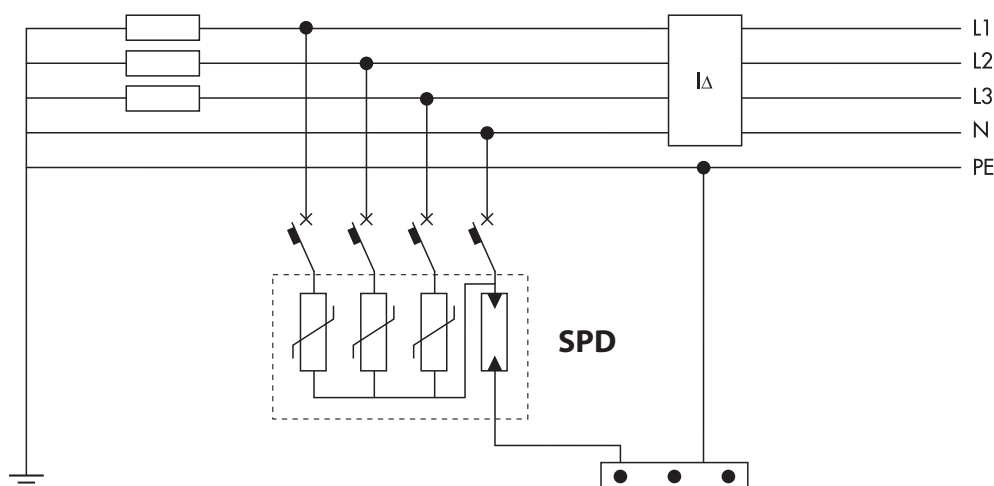
TT SYSTEM

Since SPD belongs to class II test, the voltage surge device can also be installed downstream of RCCB. In this case, it is suggested the use of a residual current circuit breaker selective [S] type to prevent untimely tripping.



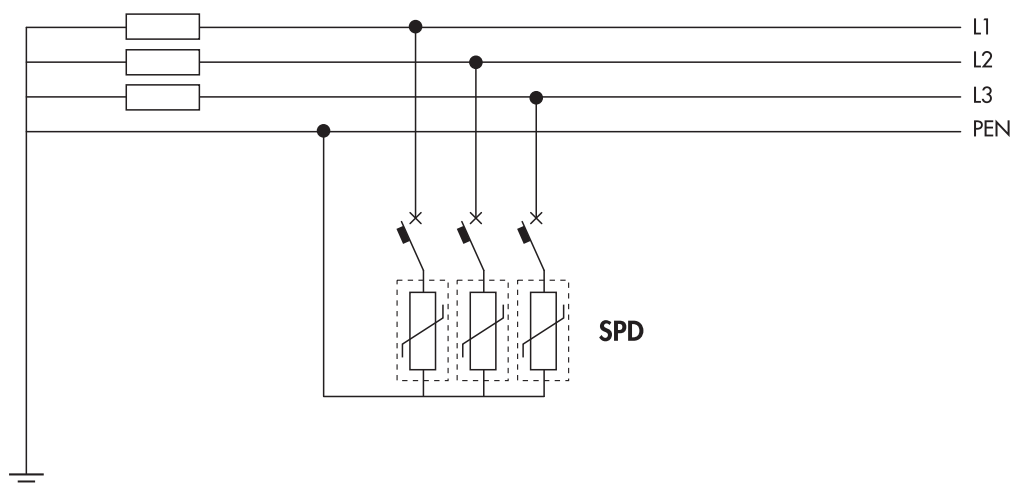
TN-S SYSTEM

Since SPD belongs to class II test, the voltage surge device can also be installed downstream of RCCB. In this case, it is suggested the use of a residual current circuit breaker selective [S] type to prevent untimely tripping.



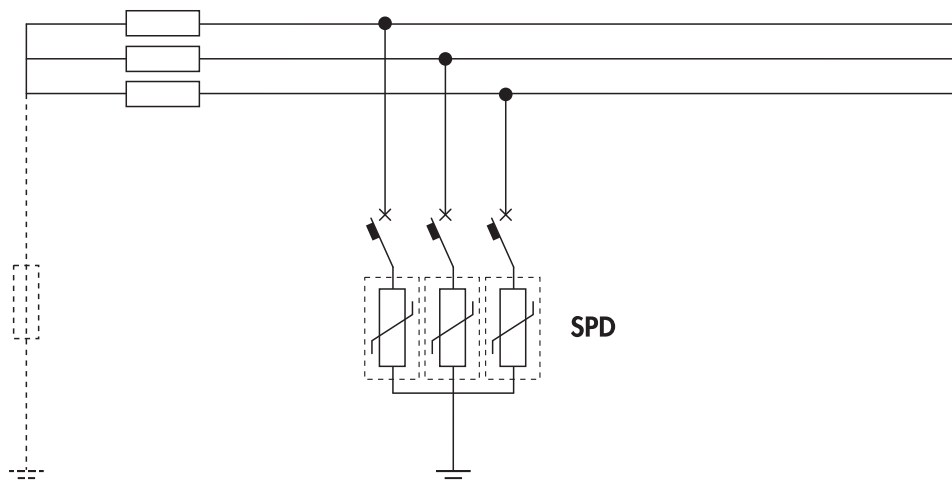
TN-C SYSTEM

It is necessary the use of 3 single-pole SPDs.



IT SYSTEM

It is necessary the use of 3 single-pole SPDs.



The voltage surge limiters must be provided with back-up protection against short-circuit fault, that is a miniature circuit breaker or a fuse (look at technical data table above). In order to reduce the actual protection voltage, the distance between back-up protection and SPD and earthing terminal must be as short as possible.

The SPD wiring must be made with cables having a cross-section larger than 4mm².

All SPD range is equipped with state indicator. It is possible to reset the state of the surge protective device using the relevant (two-poles or four-poles) base equipped with auxiliary contact (1 change-over contact).

EARTH LEAKAGE RELAY CONTROL SYSTEM

TECHNICAL DATA

Standards:		EN 60947-2 Appendix M
Rated operational voltage (Ue):	(V)	230 AC
Test voltage:	(kV)	2 at 50Hz (1kV per measurement circuit)
Rated frequency:	(Hz)	40-60
Type:		A
Rated residual operating current (IΔn):	(mA)	30 - 50 - 150 - 230 - 300 - 350
	(A)	0.5 - 1 - 1.5 - 2 - 3
Delay time (Δt):	(s)	0 - 0.25 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 10
Output contact type:		1 change-over - 10A - 250V
Insulation class:		II
Absorbed power:	(VA)	4
Degree of protection:		IP20
Operating temperature:	(°C)	0 +55
Storage temperature:	(°C)	-20 +80
Max. cable-section:	(mm ²)	6
Sealing:		yes

ON (green LED): relay ON

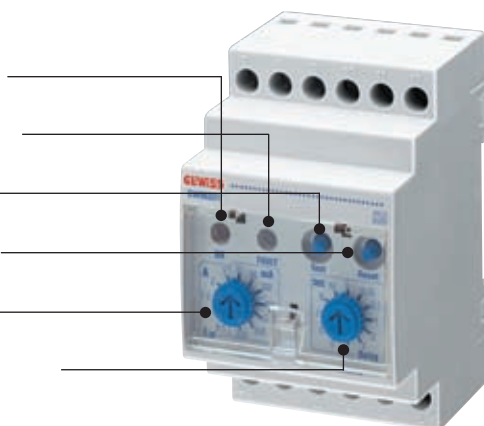
FAULT (red LED): relay tripping

TEST: relay test-button

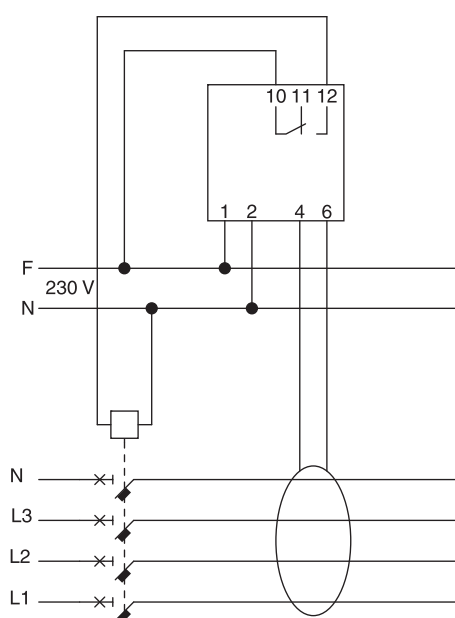
RESET: anomaly resetting

I Δ n: sensitivity setting

DELAY: delay time setting



CIRCUIT DIAGRAM



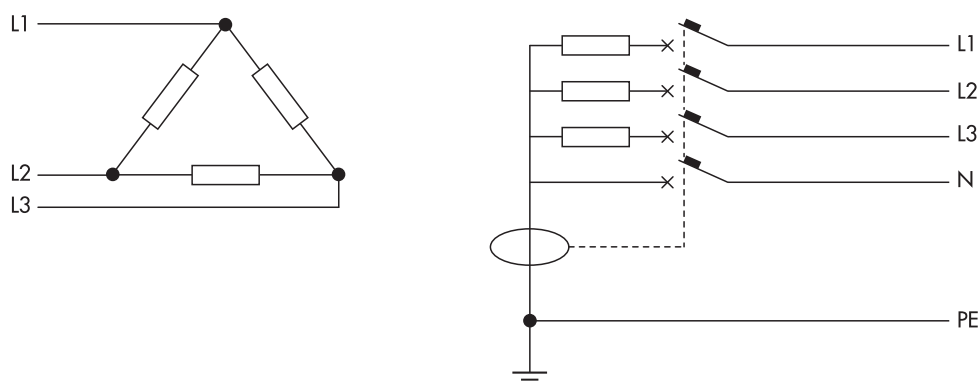
In order to obtain the residual current protection, it is necessary the use of all these following components:

- residual current relay GW 96331 (mounting on EN 50022 din rail)
- solid or split core current transformer (GW 96332 ÷ GW 96337)
- one service release (shunt trip or under voltage release) to be used an accessory to the MCB or MCCB.

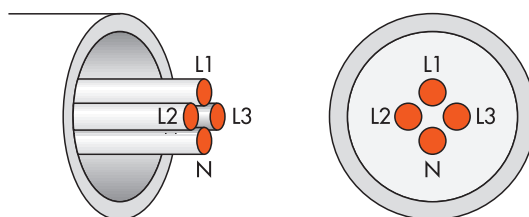
The distance between residual current relay and the core current transformer must be less than 20m.

WIRING ADVICE FOR EARTH LEAKAGE RELAY CONTROL SYSTEM

In the case of power centers with large cable-section, it is possible to place the core current transformer directly on the cable which connect the star point of the MT/BT transformer to earth.



Special attention must be paid for core current transformer wiring. In fact, the cables must be as centred as possible inside the core current transformer (look at the image below) to prevent untimely tripping of the relay when there are high rated currents circulating in the cables because these currents could cause localized magnetic saturations.



COMMAND

SWITCH DISCONNECTORS

TECHNICAL DATA

		In<63A	In≥63A
Standards:		EN 60947-3	EN 60947-3
Rated operational voltage (Ue):	(V)	230-400 AC	230-400 AC
Rated insulation voltage (Ui):	(V)	500 AC	500 AC
Rated impulse withstand voltage (Uimp):	(kV)	4	4
Rated frequency:	(Hz)	50	50
Rated current (In):	(A)	32 40	63 80 100 125
Utilization category:		AC-23B	AC-22A
Rated making capacity:	(A)	320 400	189 240 300 375
Rated breaking capacity:	(A)	256 320	189 240 300 375
Rated short-time current (Icw):	(A)	384 480	756 960 1200 1500
Rated conditional short-circuit current (Icc):	(kA)		
	MTC 45	4.5 3	3 3 3 3
	MTC 60 - MT 60	4.5 3	3 3 3 3
	MTC 100 - MT 100	4.5 3	3 3 3 3
	MT 250	4.5 3	3 3 3 3
	MTHP 160 - MTHP 250	3 3	3 3 3 3
Power loss per single pole:	(W)	0.8 1.5	2 3.2 5 6
Max. cable-section:	(mm ²)	25	50

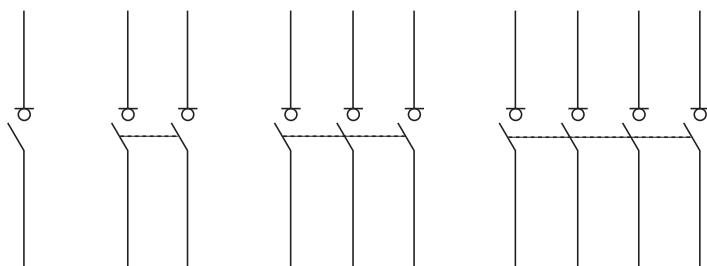
CIRCUIT DIAGRAMS

1P

2P

3P

4P



Note: the switch-disconnectors can be fitted with auxiliary contacts.

ON-OFF SWITCHES

TECHNICAL DATA						
Standards:		EN 60669-1, EN 60669-2-4				
Rated operational voltage (Ue):	(V)	230-400 AC				
Rated insulation voltage (Ui):	(V)	500 AC				
Rated frequency:	(Hz)	50-60				
Rated current (In):	(A)	16	25	32	40	63
Power loss per single pole:	(W)	0.15(*)	0.7	0.9	1.5	2.8
Indicator lamp supply voltage:	(V)	230				
Making and breaking capacity:		1.25 In - 1.1 Ue - cos φ= 0.3				
Operating temperature: (°C)		-5 +40				
Max. cable-section:	(mm²)	6	16	16	25	25

(*) total power loss for on-off switches with indicator lamp:

- 1.5W for 1P version

- 2.5W for 2P version

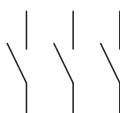
CIRCUIT DIAGRAMS



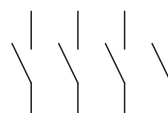
GW 96 241
GW 96 242
GW 96 243



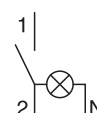
GW 96 246
GW 96 247
GW 96 248
GW 96 249
GW 96 250



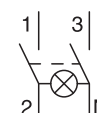
GW 96 251
GW 96 252
GW 96 253
GW 96 254
GW 96 255



GW 96 256
GW 96 257
GW 96 258



GW 96 346

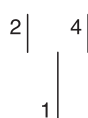


GW 96 347

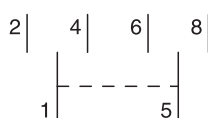
LEVER SWITCHES

TECHNICAL DATA		
Standards:	EN 60669-1	
Rated operational voltage (Ue):	(V)	230-400 AC
Rated frequency:	(Hz)	50-60
Rated current (In):	(A)	16
Device power loss:	(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
Max. cable-section:	(mm²)	6

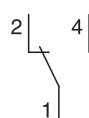
CIRCUIT DIAGRAMS



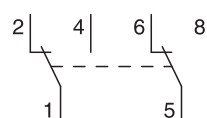
GW 96 341



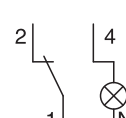
GW 96 342



GW 96 343



GW 96 345



GW 96 344

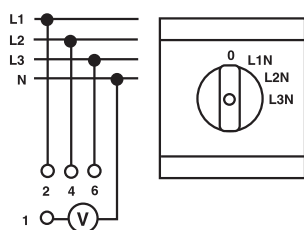
THREE-WAY SWITCHES - VOLTMETRIC AND AMPEROMETRIC CHANGEOVER SWITCHES

TECHNICAL DATA

Standards:		EN 60947-3	
Rated current (I_n):	(A)	16	
Rated operational voltage (U_e):	(V)	230-690 AC	
Utilization category:		AC3 (only three way switches)	
Rated power in AC3:	(kW)	230V	3
		400V	5.5

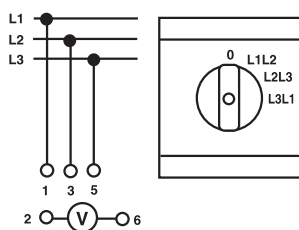
CIRCUIT DIAGRAMS

Voltmetric (4 positions)
3 phase voltages + position 0



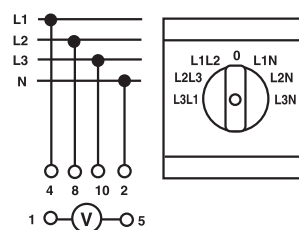
GW 96 851

Voltmetric (4 positions)
3 line voltages + position 0



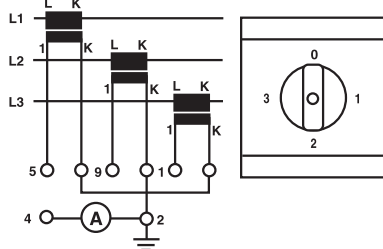
GW 96 852

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



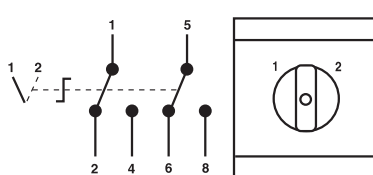
GW 96 853

Amperometric (4 positions)
3 line currents + position 0



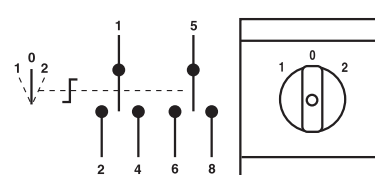
GW 96 856

2-position line
change-over switches



GW 96 951

3-position line
change-over switches

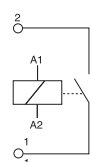


GW 96 952 - GW 96 953

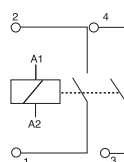
CONTACTORS

TECHNICAL DATA					
Rated current range (In):	20A	24A	32A	40A	63A
Standards:	EN 61095	EN 61095 EN 60947-4-1	EN 61095 EN 60947-4-1	EN 61095 EN 60947-4-1	EN 61095 EN 60947-4-1
Rated current (In): (A)	20	24	32	40	63
Utilization category:	AC7a	AC7a	AC7a	AC7a	AC7a
Rated operational voltage (Ue): (V)	230 - 400 AC	230 - 400 AC	230 - 400 AC	230 - 400 AC	230 - 400 AC
Rated control circuit voltage (Uc): (V)	230 AC 24 AC	230 AC-DC 24 AC-DC	230 AC	230 AC-DC	230 AC-DC
Rated insulation voltage (Ui): (V)	500 AC	500 AC	500 AC	500 AC	500 AC
Rated impulse withstand voltage (Uimp): (kV)	4	4	4	4	4
Rated frequency: (Hz)	50	50	50	50	50
Pick-up coil power consumption:	9VA	4VA / 4W	9VA	5VA / 5W	6.5VA / 6.5W
Holding coil power consumption:	2.5VA	4VA / 4W	2.5VA	5VA / 5W	4.2VA / 4.2W
Coil operating voltage: (V)	0.85 - 1.1xUn	0.8 - 1.06xUn	0.8 - 1.06xUn	0.8 - 1.06xUn	0.8 - 1.06xUn
Rated 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
Power loss per single pole: (W)	1	1.2	1.5	3	6
Electrical endurance in AC7a/AC1 (No. total operations):	150000	150000	150000	150000	150000
Electrical endurance in AC7b/AC3 (No. total operations):	-	500000	-	170000	240000
Mechanical endurance (No. total operations):	1000000	1000000	1000000	1000000	1000000
Rated conditional short-circuit current (Icc): (kA)	3	3	3	3	3
Min. closing command duration: (ms)	25	25	25	25	25
Operating temperature: (°C)	-5 +40	-25 +55	-5 +40	-25 +55	-25 +55
Max. contact cable-section: (mm²)	10 or 2x4	25 or 2x10	10 or 2x4	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	4 or 2x2.5

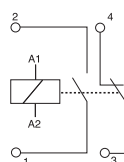
CIRCUIT DIAGRAMS - CONTACTORS



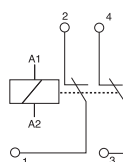
GW 96 701



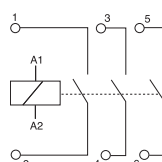
GW 96 702
GW 96 704
GW 96 721
GW 96 731



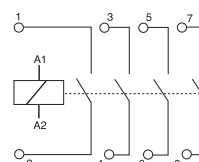
GW 96 703



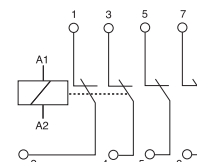
GW 96 705



GW 96 706
GW 96 715
GW 96 722
GW 96 732

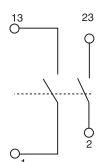


GW 96 708
GW 96 711
GW 96 712
GW 96 723
GW 96 733

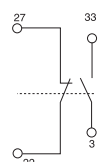


GW 96 713

CIRCUIT DIAGRAMS - AUXILIARY CONTACTS



GW 96 741

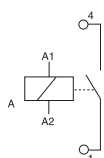


GW 96 742

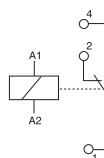
MOMENTARY RELAYS

TECHNICAL DATA				
N° poles:		1 POLE	2 POLES	4 POLES
Standards:		EN 61095	EN 61095	EN 61095
Rated current (I _n):	(A)	16	16	16
Rated operational voltage (U _e):	(V)	230 AC	230 AC	230-400 AC
Rated control circuit voltage (U _c):	(V)	8-12-24-230 AC; 12-24 DC	8-12-24-230 AC; 24 DC	12-24-230 AC
Rated insulation voltage (U _i):	(V)	250 AC	250 AC	400 AC
Rated impulse withstand voltage (U _{imp}):	(kV)	4	4	4
Rated frequency:	(Hz)	50	50	50
Pick-up coil power consumption:		4VA / 2.9W	9VA/12W	14VA / 14W
Holding coil power consumption:		2.4VA / 2.9W	2.5VA / 0.7W	6VA / 2W
Coil operating voltage:	(V)	0.9...1.1xU _n	0.9...1.1xU _n	0.9...1.1xU _n
Max. lamp power:				
incandescent lamps (W)		2400	2400	2400
fluorescent lamps (W)		500	500	500
halogen lamps (W)		1000	1000	1000
Power loss per single pole:	(W)	0.6	0.6	0.6
Electrical endurance (I _n and cosφ = 0.9) (No. total operations):		100000	100000	100000
Mechanical endurance (No. total operations):		1000000	1000000	1000000
Min. closing command duration:	(ms)	25	25	25
Operating temperature:	(°C)	-5 +40	-5 +40	-5 +40
Max. contact cable-section:	(mm²)	4 or 2x2.5	10 or 2x4	10 or 2x4
Max. coil cable-section:	(mm²)	4 or 2x2.5	4 or 2x2.5	4 or 2x2.5

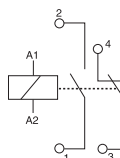
CIRCUIT DIAGRAMS



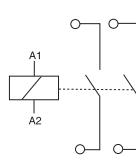
GW 96 601
GW 96 602
GW 96 603
GW 96 604



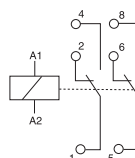
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GW 96 923
GW 96 924
GW 96 925
GW 96 926
GW 96 921



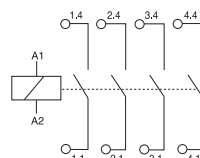
GW 96 606
GW 96 607
GW 96 608



GW 96 615



GW 96 611
GW 96 612
GW 96 613
GW 96 614
GW 96 932

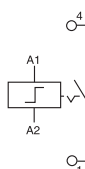


GW 96 616
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GW 96 618

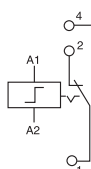
IMPULSE SWITCHES

TECHNICAL DATA		IMPULSE SWITCHES		CENTRALIZED IMPULSE SWITCHES	
N° poles:		1 POLE	2/4 POLES	1 POLE	2/3 POLES
Standards:		EN 60669-2-2	EN 60669-2-2	EN 60669-2-2	EN 60669-2-2
Rated current (In):	(A)	16	16	16	16
Rated operational voltage (Ue):	(V)	230 AC	230 AC	230 AC	230 AC
Rated control circuit voltage (Uc):	(V)	8-12-24-230 AC 24 DC	12-24-230 AC 24 DC	24-230 AC 24 DC	24-230 AC 24 DC
Rated insulation voltage (Ui):	(V)	250 AC	250 AC	250 AC	250 AC
Rated impulse withstand voltage (Uimp):	(kV)	4	4	4	4
Rated frequency:	(Hz)	50	50	50	50
Pick-up coil power consumption:		5VA / 3.3W	9VA/12W	12VA / 12W	12VA / 12W
Holding coil power consumption:		3.5VA / 3.3W	2,5VA / 1W	1VA/1W	1VA/1W
Coil operating voltage:	(V)	0.9 - 1.1xUn	0.9 - 1.1xUn	0.9 - 1.1xUn	0.9 - 1.1xUn
Max. lamp power:					
Incandescent lamps	(W)	2400	2400	2400	2400
fluorescent lamps	(W)	500	500	500	500
halogen lamps	(W)	1000	1000	1000	1000
Power loss per single pole:	(W)	1.5	1.5	1.5	1.5
Electrical endurance (In and cosφ= 0.9) (No. total operations):		100000	100000	100000	100000
Mechanical endurance (No. total operations):		200000	200000	200000	200000
Min. closing command duration:	(ms)	25	25	25	25
Operating temperature:	(°C)	-5 +40	-5 +40	-5 +40	-5 +40
Max. contact cable-section:	(mm²)	4 or 2x2.5	10 or 2x4	10 or 2x4	10 or 2x4
Max. coil cable-section:	(mm²)	4 or 2x2.5	4 or 2x2.5	4 or 2x2.5	4 or 2x2.5

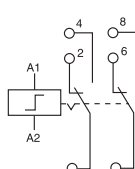
CIRCUIT DIAGRAMS - IMPULSE SWITCHES



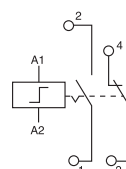
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GW 96 622
GW 96 623
GW 96 624



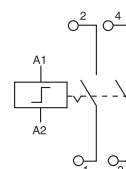
GW 96 625
GW 96 626
GW 96 627
GW 96 628
GW 96 630



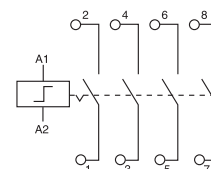
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GW 96 674
GW 96 676



GW 96 631
GW 96 632
GW 96 633

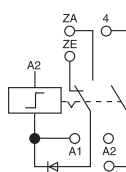


GW 96 636
GW 96 637
GW 96 638

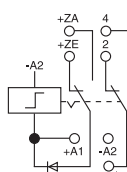


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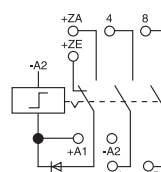
CIRCUIT DIAGRAMS - CENTRALIZED IMPULSE SWITCHES



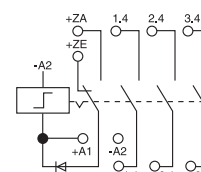
GW 96 652
GW 96 653



GW 96 657
GW 96 658
GW 96 659



GW 96 662
GW 96 663
GW 96 664

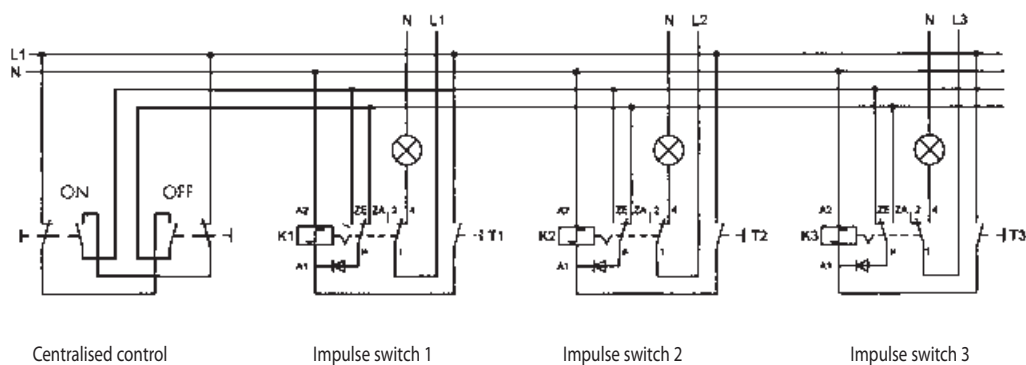


GW 96 667
GW 96 668
GW 96 669

WIRING FOR CENTRALIZED IMPULSE SWITCH

The centralized impulse switch has an output for control in just one point, thus allowing the switching on/off of all loads controlled by the different switches, independently of their states (on or off).

WIRING DIAGRAM FOR CONTROL CENTRALISATION



Note: All impulse switches used must be "centralized" type.

BIOCOMFORT (MAIN DISCONNECTION SWITCH)

DESCRIPTION

PRINCIPLE OF OPERATION

The GEWISS mains disconnection switch (also called Biocomfort) disconnects the 230V AC power supply when all series connected loads are turned off, thus removing any electromagnetic fields.

It is not necessary to set manually the electrical input for the correct functioning of Biocomfort because it is automatically learned by innovative self-learning function. When a load is again turned on, the mains disconnection switch connects the phase for the proper operation of electric equipment. Also, it is possible to deactivate the main disconnection switch rotating the regulator voltage for electrical circuit maintenance.

TECHNICAL DATA

Standards:		EN 60669-2-1
Rated operational voltage (Ue):	(V)	230 AC
Rated current (In):	(A)	16
Rated insulation voltage (Ui):	(V)	250 AC
Rated frequency:	(Hz)	50
Monitoring voltage:	(V)	5 ÷ 230 DC
Max. lamp power:	(W)	Incandescent lamps: 3600
		Fluorescent lamps: 1000
		Lamps with ballast: 400
Power loss:	(W)	1
Mechanical endurance (No. total operations):		10000000
Closing time:	(ms)	10 - 20
Opening time:	(ms)	5 - 15
Operating temperature:	(°C)	-20 +50
Max. cable-section:	(mm²)	6

BASE LOAD CHARACTERISTICS

A base load is used where loads cannot be recognized (electrical input less than 30mA) because of their capacitance (a typically example is fluorescent lamp). It must be connected in parallel with the related load or in junction boxes.

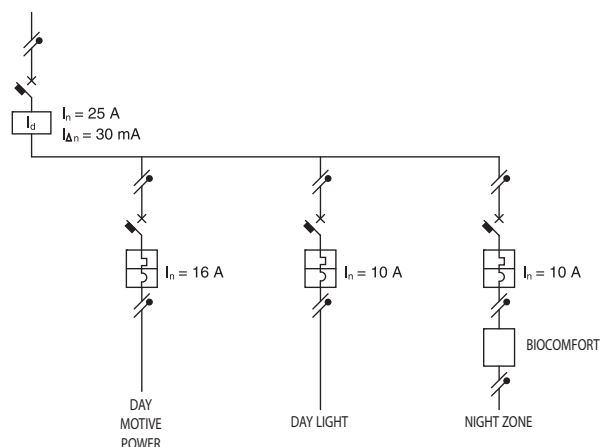


Rotary regulator monitoring voltage from 5 to 230V DC

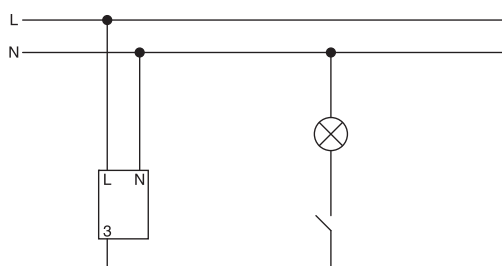
Rotary switch learn

CIRCUIT DIAGRAMS

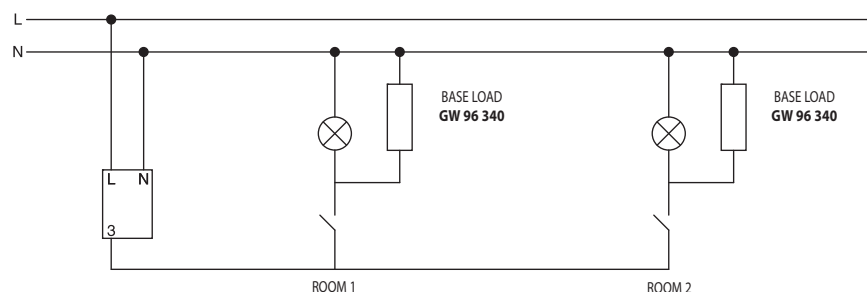
INSTALLATION EXAMPLE



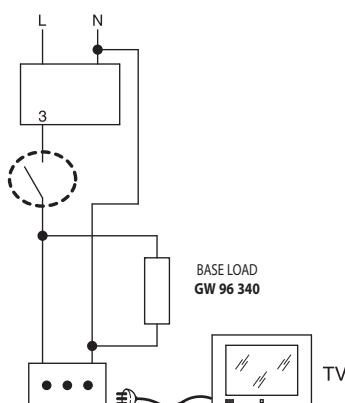
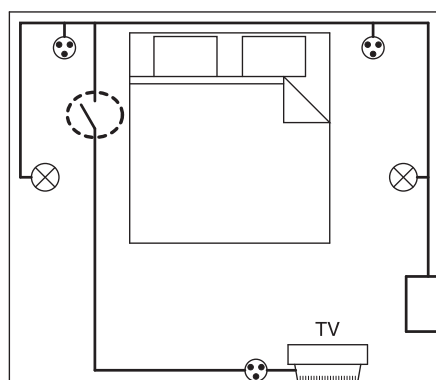
INCANDESCENT LAMPS



FLUORESCENT LAMPS



LOADS IN STAND-BY



Special attention is required if there are loads in stand-by in the bedroom, such as TV. In this case, the socket which the load is connected to must be controlled by one-way switch. Moreover, the base load must be installed in parallel with the socket.

PROGRAMMING

MULTIFUNCTION TIMER

TECHNICAL DATA

Rated operational voltage (Ue):	(V)	110...240 AC (-15%...+10%) 24 AC/DC (±10%)
Output contact type:	(A)	1 change-over contact 8A-250V
Minimum uninterrupted current:	(mA)	100
Max. output relay voltage:	(V)	250 AC
Rated impulse withstand voltage (Uimp):	(kV)	4
Rated frequency:	(Hz)	50-60
Timing:		0.05s...240h
Power loss:		
	24V AC	1.5VA
	110V AC	2VA
	230V AC	8VA
	24V DC	1W
Electric endurance (No. total operations):		400,000 cycles
Max. no. of operations in 1 hour:		3,600
Service factor:		100 %
Repetition precision:		0.5%
Reset time:	(ms)	100
Degree of protection:		IP20
Operating temperature:	(°C)	-25 +55
Max. cable-section:	(mm²)	4

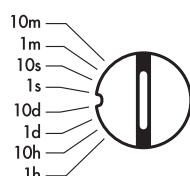
The multifunction timer permits the power supply and cut-off for a load for a set time (adjustable from 0.05s to 240h). The cycle can be repeated several times until the timer cuts off (intermittent operation).



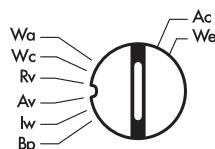
End of delay time adjustment



Delay time adjustment

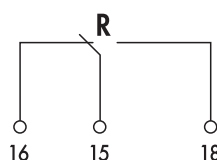
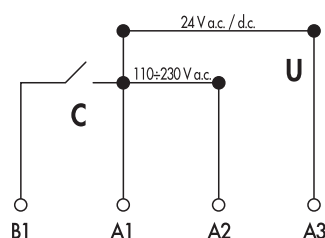


Operation modes



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

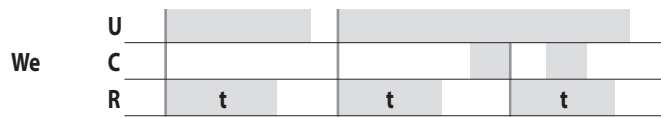
CIRCUIT DIAGRAMS



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

MULTIFUNCTIONAL TIMER OPERATING CONDITION

We: voltage control activation



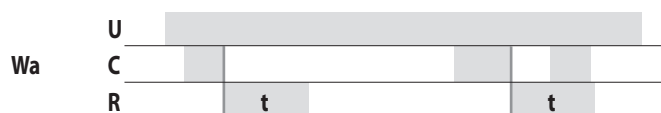
By providing the supply voltage **U**, the relay **R** changes over for the set time **t**. If the supply voltage **U** is disconnected before the pulse has ended, the time that has gone by is cancelled and the new cycle starts from zero. If the supply voltage **U** remains connected at the end of the 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: delay on activation



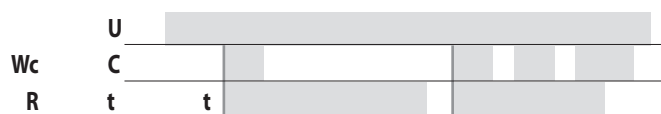
The relay **R** energizes after connection of the supply voltage **U** and after the set time **t** elapses; it remains energised as long as the supply voltage **U** continues. Additional function: the relay **R** de-energizes when the control contact **C** is closed. When **C** reopens, the **t** cycle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



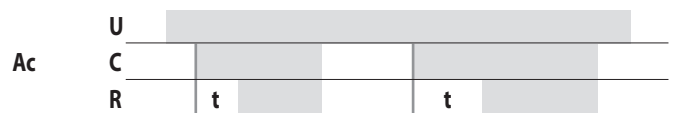
The supply voltage **U** is constantly maintained. The relay **R** instantaneously changes over when the control contact **C** closes and continues for the set time **t**. The change of status of **C** during the cycle has no effect on **R**; a new cycle can be started only at the end of the set time **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



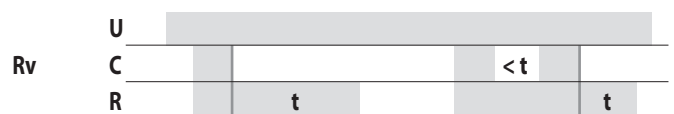
The supply voltage **U** is constantly maintained. On closing of the control contact **C**, the calculation of **t** starts. After **t** has elapsed, the relay **R** energizes and remains energised as long as the control **C** is open and the supply voltage **U** is disconnected.

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: delay on opening



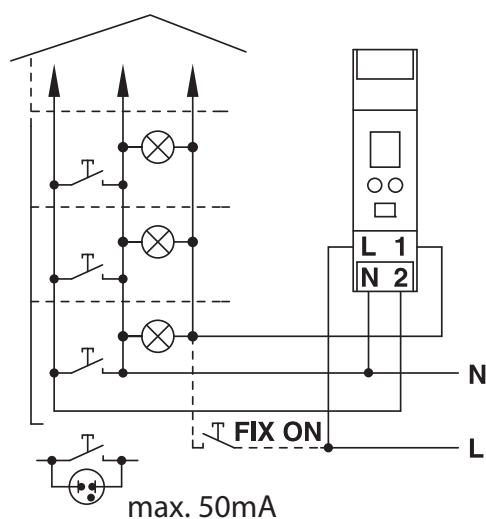
By providing the supply voltage **U** and following closing of the control contact **C**, the relay **R** changes over. Upon opening of **C**, **R** de-energizes after the set time **t** (or immediately if **U** is removed). If **C** is closed again before the set time **t** has expired, the cycle **t**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

STAIRCASE LIGHTING TIMER SWITCHES

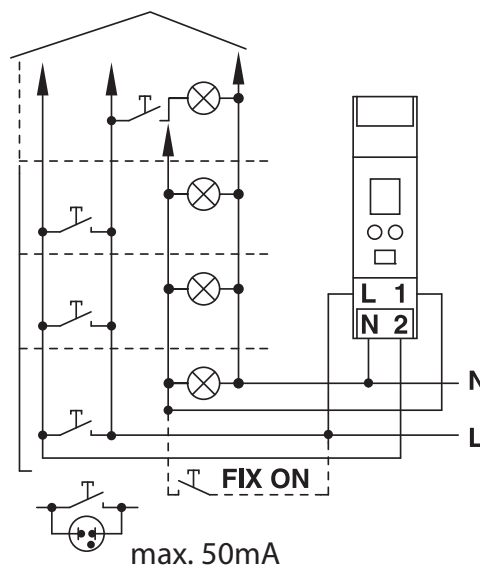
TECHNICAL DATA			
Type:		NORMAL	WITH ADVANCE WARNING
Standards:		EN 60669-1/2-1	EN 60669-1/2-1
Rated operational voltage (Ue):	(V)	230 AC	230 AC
Rated insulation voltage (Ui):	(V)	250 AC	250 AC
Rated frequency:	(Hz)	50	50
Timer setting:		30s...20min	30s...99.5min
Output contact type:		1NO - 16A-230V-cosφ= 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
Connection type:		3 or 4 wires	3 or 4 wires
Operating states:		automatic/fixed ON	automatic/fixed ON
Power loss:	(VA)	1.3	1.3
Back-lit push buttons:	(mA)	50	50
Degree of protection:		IP20	IP20
Operating temperature:	(°C)	-15...+40	-15...+40
Max. cable section:	(mm²)	6	6

CIRCUIT DIAGRAMS

3-wire connection



4-wire connection

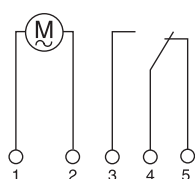


ASTRONOMICAL SWITCH

TECHNICAL DATA

Item code:		GW 96 821
Standards:		EN 60065
Rated operational voltage (Ue):	(V)	230 AC
Rated frequency:	(Hz)	50-60
Number of channels:		1
Output contact type:		1 change-over
Switch-over capacity:	resistive loads	16A-250V-cosφ= 1
	inductive loads	8A-250V-cosφ= 0.6
	incandescent lamps	1000W
Standby charge:	(h)	3 years
Operating states:		automatic/fixed ON/fixed OFF
Precision:	(s/day)	2.5
Absorbed power:	(VA)	5
Degree of protection:		IP20
Operating temperature:	(°C)	-25...+55
Max. cable section: (mm²)		4
Sealing:		yes

CIRCUIT DIAGRAM



GW 96 821

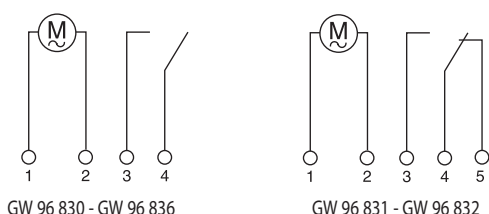
ANALOGUE TIMER SWITCHES

TECHNICAL DATA				
Item code:	GW 96 830	GW 96 836	GW 96 831	GW 96 832
Standards:	EN 60335-1/2-26	EN 60335-1/2-26	EN 60335-1/2-26	EN 60335-1/2-26
Type:	Daily	Daily	Daily	Weekly
Rated operational voltage (Ue): (V)	230 AC	230 AC	230 AC	230 AC
	-	110 DC	130 DC	110 DC
Rated frequency: (Hz)	50	50	50	50
Output contact type:	1NO	1NO	1 change-over	1 change-over
Switch-over capacity:				
resistive loads	16A-250V-cosφ= 1	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	4A-250V-cosφ= 0.6
incandescent lamps	1000W	1000W	1350W	1350W
Minimum setting:	30min	30min	30min	3h
Standby charge: (h)	NO	50	150	150
Operating states:	automatic/fixed ON	automatic/fixed ON	automatic/fixed ON/fixed OFF	automatic/fixed ON/fixed OFF
Absorbed power: (VA)	1	1	1	1
Degree of protection:	IP20	IP20	IP20	IP20
Operating temperature: (°C)	-25...+55	-20...+55	-20...+55	-20...+55
Max. cable section: (mm²)	6	6	6	6
Sealing:	yes	yes	yes	yes

DIGITAL TIMER SWITCHES

TECHNICAL DATA			
Item code:	GW 96 845	GW 96 844	GW 96 846
Standards:	EN 60669-1/2-1	EN 60669-1/2-1	EN 60669-1/2-1
Type:	Daily/Weekly	Daily/Weekly	Daily/Weekly
Rated operational voltage (Ue): (V)	230 AC	230 AC	230 AC
Rated frequency: (Hz)	50-60	50-60	50-60
No. of channels:	2	1	1
Output contact type:	2 change-over	1 change-over	1 change-over
Switch-over capacity:			
resistive loads	16A-250V-cosφ= 1	16A-250V-cosφ= 1	16A-250V-cosφ= 1
inductive loads	8A-250V-cosφ= 0.6	8A-250V-cosφ= 0.6	8A-250V-cosφ= 0.6
incandescent lamps	1000W	1000W	1000W
Minimum setting: (min)	50	50	50
Min adjustment (min.):	1	1	1
Standby charge: (h)	3 years	3 years	3 years
Operation:	automatic/fixed ON/fixed OFF	automatic/fixed ON/fixed OFF	automatic/fixed ON/fixed OFF
Precision: (s/day)	2.5	2.5	2.5
Absorbed power: (VA)	5	5	5
Degree of protection:	IP20	IP20	IP20
Operating temperature: (°C)	-25...+55	-25...+55	-25...+55
Max. cable section: (mm²)	4	4	2.5
Sealing:	yes	yes	yes

CIRCUIT DIAGRAM - ANALOGUE SWITCHES



CIRCUIT DIAGRAM - DIGITAL SWITCHES

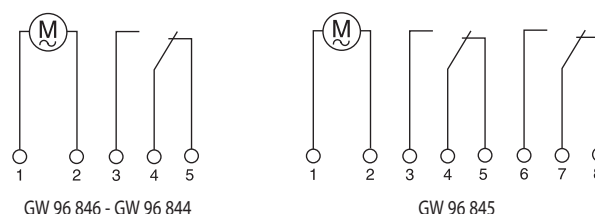
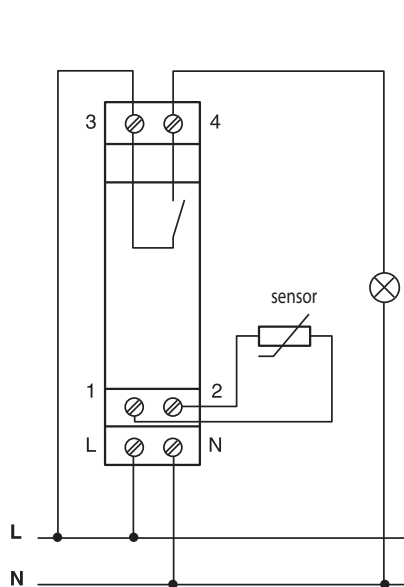


PHOTO-ELECTRIC CELLS

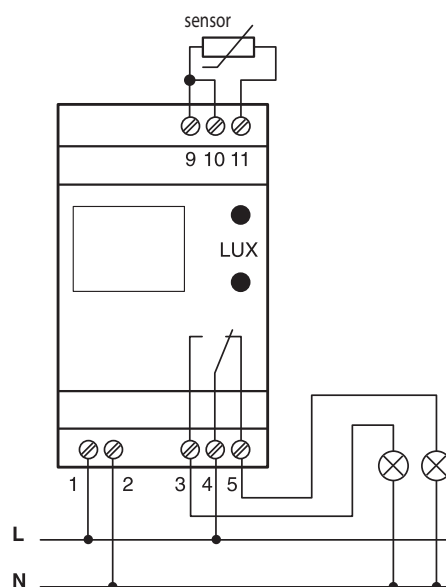
TECHNICAL DATA

Device type:		NORMAL	WITH DIGITAL TIMER SWITCH
Standards:		EN 60669-1/2-1	EN 60669-1/2-1
Rated operational voltage (Ue):	(V)	230 AC	230 AC
Rated frequency:	(Hz)	50-60	50-60
No. of channels:		1	1
Output contact type:		1 NO	1 change-over
Switch-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
Switch-over capacity in DC:			
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
Type:			Daily/Weekly
No. of memories:			20
Minimum setting:	(min)		1
Standby charge:	(h)		3 years
Operation:			automatic/fixed ON/fixed OFF
Precision:	(s/day)		2.5
Power loss:	(VA)	5	2.5
Degree of protection:		IP20	IP20
Sensor degree of protection:		IP65	IP65
Operating temperature:	(°C)	-20...+55	-20...+55
Sensor operating temperature:	(°C)	-30...+70	-30...+70
Max. cable section:	(mm²)	4	4

CIRCUIT DIAGRAM



GW 96 892



GW 96 891

MEASUREMENT

VOLTMETERS AND AMMETERS

TECHNICAL DATA

Type:		ANALOGUE	DIGITAL
Standards:		EN 60051-1 / EN60051-2	EN 61010-1
Rated operational auxiliary voltage (Ue):	(V)		230 AC
Rated frequency:	(Hz)	40-60	15-100
Ammeter interchangeable scales and capacity:	(A)	10-20-30-40-50-60-100-150-250 400-600-1000-1200-1500	5 ÷ 999
Voltmeter scale:	(V)	300-500 AC	500 AC
Precision class:		1.5	0.5
Ammeter overloadability:		10 In for 1s / 2 In continuous	1,1 In continuous
Voltmeter overloadability:		2 Vn for 5s / 1.2 Vn continuous	1.2 Vn continuous
Power loss:	(VA)	0.3 ammeters 1.5 voltmeters	2 ammeters 1.5 voltmeters
Degree of protection:		IP20	IP20
Operating temperature:	(°C)	-10...+55	-5...+55
Max. cable section:	(mm²)	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

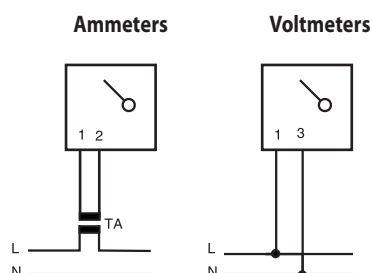
The digital instrument with completely electronic operation ensure high precision and long service life owing to the absence of moving mechanical parts subject to wear and tear. The measurement is displayed by means of a digital multiscale display. The ammeters are fitted for capacity selection using the front push-button.

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

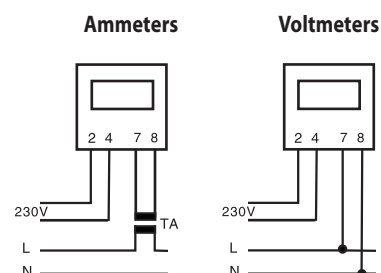
CIRCUIT DIAGRAM



ANALOGUE



DIGITAL



ENERGY METERS

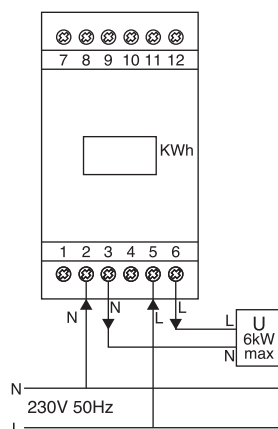
TECHNICAL DATA

Type:		SINGLE-PHASE	THREE-PHASE DIRECT	THREE-PHASE WITH T.A.
Standards:		EN 61036	EN 61036	EN 61036
Rated operational voltage (Ue):	(V)	230 AC	400 AC	400 AC
Activation type:		direct	direct	indirect
Rated frequency:	(Hz)	40-60	40-60	40-60
Rated current:	(A)	26	30	T.A. of 5A
Maximum current:	(A)	30	32	
Rated power:	(kW)	6		
Reading resolution:	(kWh)	0.01	0.1	0.1
Remote signalling 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 AC	0.5A - 100V AC
Precision class:		1.5	1.5	1.5
Power loss:	(VA)	< 4	< 10	< 10
Degree of protection:		IP20	IP20	IP20
Operating temperature:	(°C)	0...+50	0...+50	0...+50
Max. cable section:	(mm²)	6	6	6
Resetting:		no	no	no

CIRCUIT DIAGRAM

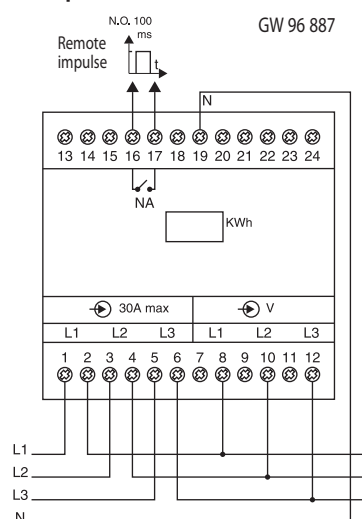
Single-phase meter

GW 96 886



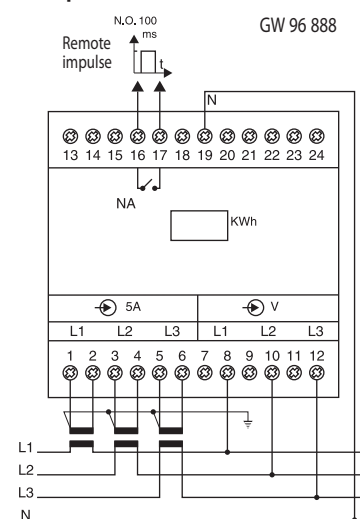
Three-phase meter with direct activation

GW 96 887



Three-phase meter with transformers

GW 96 888



HOUR METER

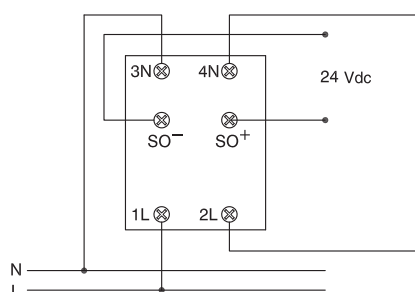
TECHNICAL DATA

Standards:		EN60335-1/2-26
Rated operational voltage Un:	(V)	230 AC
Rated frequency:	(Hz)	50
Displayed digits:		99,999.99
Resetting:		no
Power loss:	(VA)	1
Degree of protection:		IP20
Operating temperature:	(°C)	-25...+55
Max. cable section:	(mm²)	10

COMPACT ENERGY POWER METER

TECHNICAL DATA		
Standards:		EN 61036
Rated operational voltage Un:	(V)	230 AC
Activation type:		direct
Rated frequency:	(Hz)	50
Rated current:	(A)	5
Maximum current:	(A)	25
Reading resolution:	(kWh)	0.1
Remote signalling contact:		1NO "open collector"
Max. pulse output voltage:	(V)	30 DC
Max. pulse output current:	(mA)	20
Output pulse frequency:	(imp/kWh)	1000i/kWh
Pulse output duration:	(ms)	50
Precision class:		1
Approvals:		PTB
Power loss:	(VA)	9
Degree of protection:		IP20
Operating temperature:	(°C)	-10...+45
Max. cable section:	(mm ²)	6 input 2.5 output
Resetting:		no

CIRCUIT DIAGRAM



MAINS ANALYSER

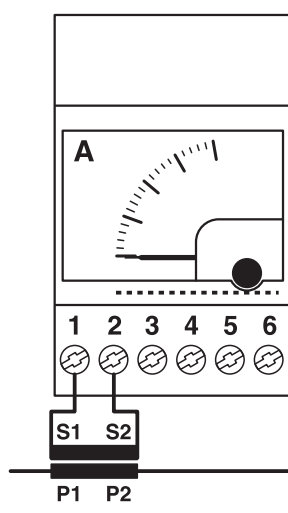
TECHNICAL DATA

Type:		MULTIMETER	MAINS ANALYSER
Standards:		EN 61010	EN 61010
Rated operational voltage:	(V)	400	400
Rated frequency	(Hz)	50-60	50-60
Activation:		TA of 5A	TA of 5A
Rated supply voltage Un:	(V)	230 AC	230 AC
Measured values:		voltage (phase and line), power	Instantaneous measures: - voltage (phase and line) - power (phases and neutral) - frequency - active, reactive, apparent power (total and by phase) - $\cos\varphi$ (total and by phase) Average values (based on 15min): - active, reactive, apparent power (total and by phase) Energy measurement: - active energy (partial resettable and total) - reactive energy (partial resettable and total) Measurement of energy quality: - THD (% harmonic dispersion rate for voltage and power)
Resetting of partial energy count:			active and reactive
Display:		LED	LCD
Remote signalling contact:			all measured sizes
Output RS485:			MODBUS RTU
Precision class:		0,5	2
Overloadability:		1,1 In	1,1 In
Power loss:	(VA)	2	2
Degree of protection:		IP20	IP20
Operating temperature:	(°C)	-5...+55	0...+45
Storage temperature:	(°C)	-10...+70	-10...+70

CURRENT TRANSFORMERS

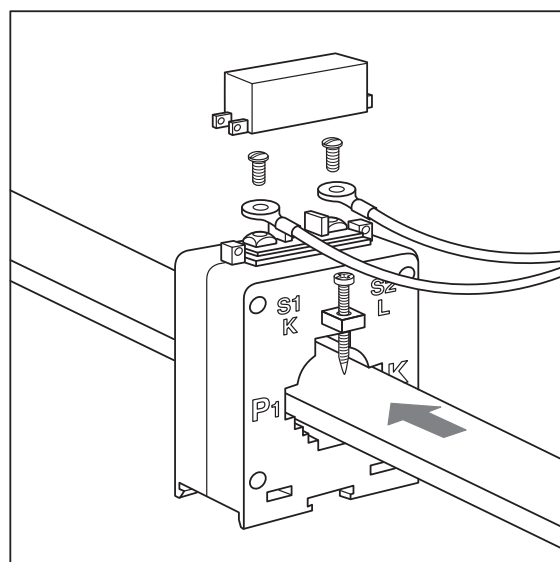
TECHNICAL DATA

Standards:		EN 60044-1
Secondary current:	(A)	5
Rated frequency:	(Hz)	50-60
Dielectric strength test voltage between pole and earth:		6kV at 50Hz for 1 min.
Overloadability:		1.2I _n
Dynamic shorting current:		2.5I _{th}
Safety factor:		< 5
Degree of protection:		IP30
Operating temperature:	(°C)	-20...+50
Storage temperature:	(°C)	-40...+80
Relative humidity:		80%
Max. cable section:	(mm ²)	10

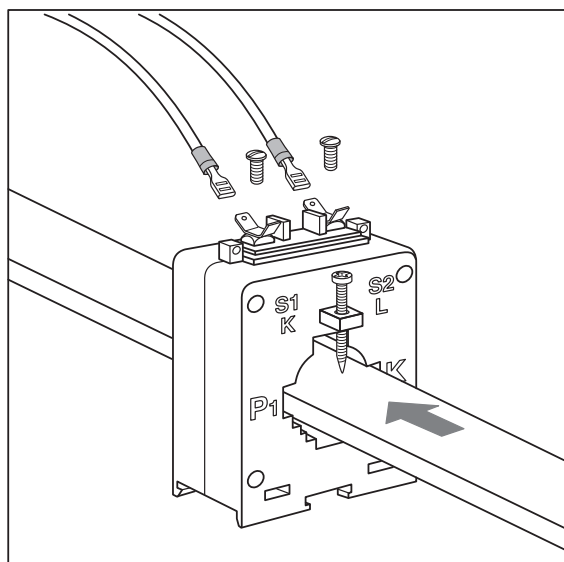


CONNECTION DIAGRAM

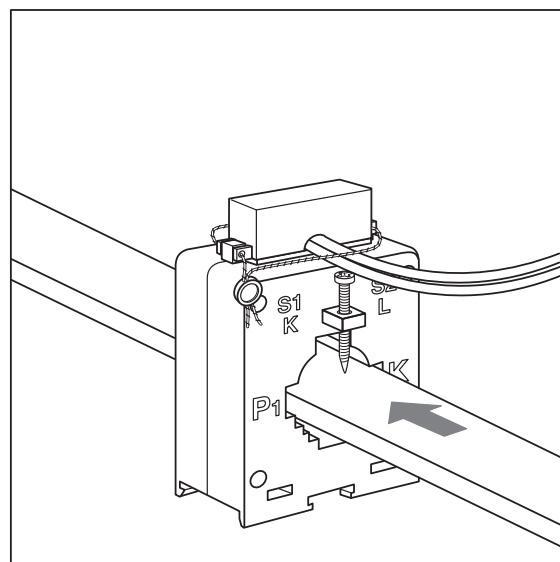
CONNECTION WITH
CABLE TERMINAL



CONNECTION WITH FAST-ON (6.3 MM)



TERMINAL
COVER FIXING
AND SEALING



SIGNALLING

SIGNALLING LAMPS

TECHNICAL DATA

		230V	24V
Rated operational voltage Un:	(V)	230 AC	24 AC
Rated 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
Max. cable section:	(mm ²)	4	4

CIRCUIT DIAGRAM

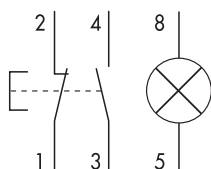


BACK-LIT PUSH-BUTTONS

TECHNICAL DATA

		230V	24V
Standards:		EN 60947-5-1	EN 60947-5-1
Rated operational voltage Un:	(V)	230 AC	230 AC
Lamp voltage:	(V)	230 AC	24 AC
Rated current:	(A)	16	16
Rated 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 endurance (No. total operations):		20,000	20,000
Operating temperature:	(°C)	-5...+40	-5...+40
Max. cable section:	(mm ²)	4	4

CIRCUIT DIAGRAM



BELLS AND BUZZERS

TECHNICAL DATA

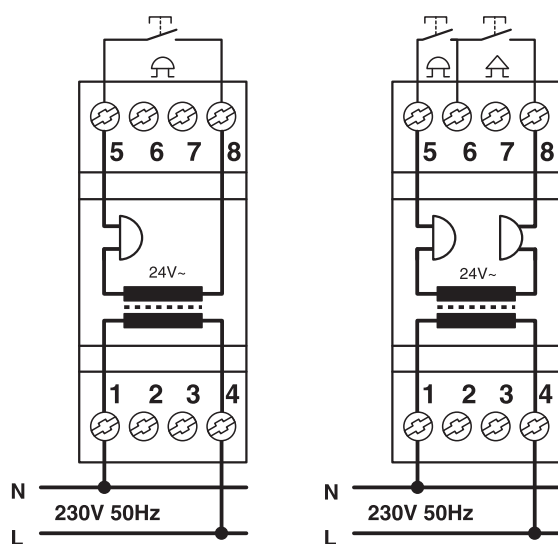
Type:		Ringers	Ringer + transformer	Buzzers	Buzzer + transformer	Ringers + Buzzer + transformer
Rated operational voltage Un:	(V)	12-230 AC	230 AC	12-230 AC	230 AC	230 AC
Rated frequency:	(Hz)	50-60	50	50-60	50	50
Rated secondary voltage Un:	(V)		24 AC		24 AC	24 AC
Acoustic power at 1m:	(dB)	84	80	80	70	80 ringers - 70 buzzer
Power loss:	(VA)	5 version 12V 10 version 230V	6.1	5 version 12V 10 version 230V	6.1	3.8+3.8
Degree of protection:		IP20	IP20	IP20	IP20	IP20
Operating temperature:	(°C)	-10...+55	-10...+55	-10...+55	-10...+55	-10...+55
Max. cable section:	(mm²)	6	6	6	6	6

BELL TRANSFORMERS

TECHNICAL DATA

Standards:		EN 61558-1 / EN 61558-2-8
Rated operational primary voltage Un:	(V)	230 AC
Rated operational secondary voltage Un:	(V)	4+8=12 / 12+12=24
Secondary voltage change at full load:		15%
Insulation class:		II
Rated power:	(VA)	5 - 10 - 15 - 30 - 40
Degree of protection:		IP20
Operating temperature:	(°C)	-10...+40
Max. cable section:	(mm²)	6

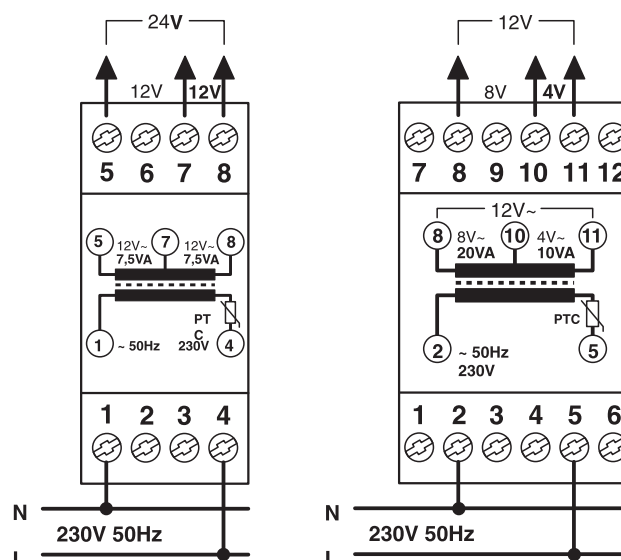
CIRCUIT DIAGRAM - BELLS AND BUZZERS



GW 96 403

GW 96 411

CIRCUIT DIAGRAM - BELL TRANSFORMERS



GW 96 426

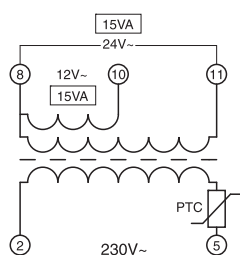
GW 96 431

SAFETY TRANSFORMERS

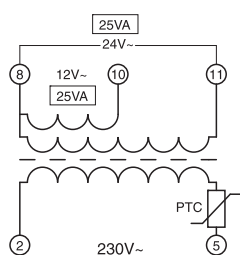
TECHNICAL DATA

Standards:		EN 61558-1 / EN 61558-2-6	
Rated operational primary voltage Un:	(V)	230 AC	
Rated operational secondary voltage Un:	(V)	12-24 AC	
Secondary voltage change at full load:		5%	
Rated frequency:	(Hz)	50	
Rated power / Power loss off-load:			
Technical data	Secondary voltage		
	Code	12V	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
Insulation class:		II	
Degree of protection:		IP20	
Max. cable section:	(mm²)	6	
Resistant to the short-circuit not for construction:		yes	

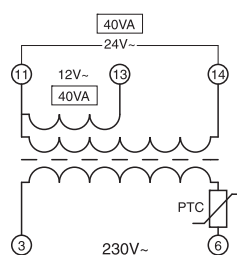
CIRCUIT DIAGRAM



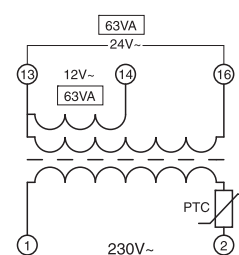
GW 96 321



GW 96 322



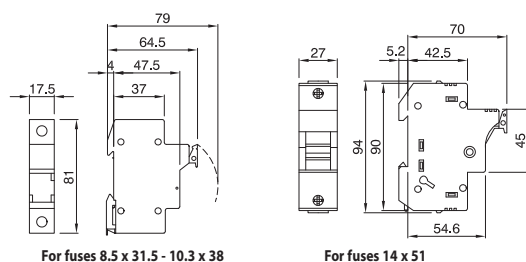
GW 96 323



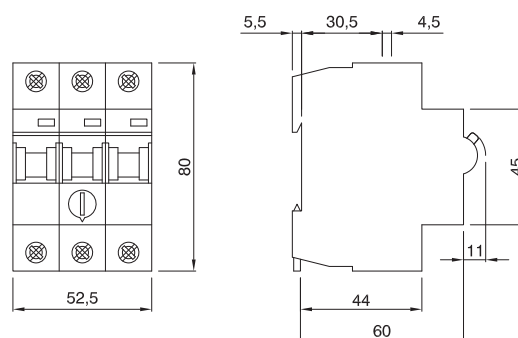
GW 96 324

DIMENSIONAL TABLES

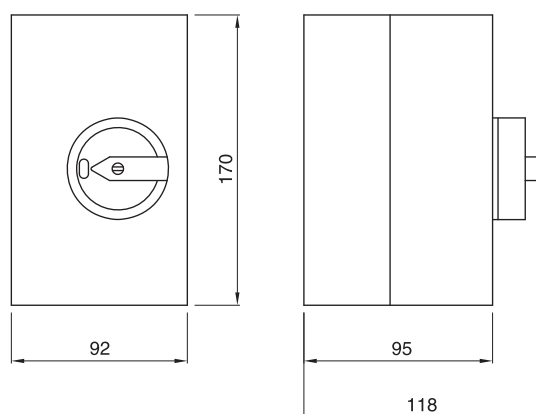
DISCONNECTABLE FUSE HOLDERS



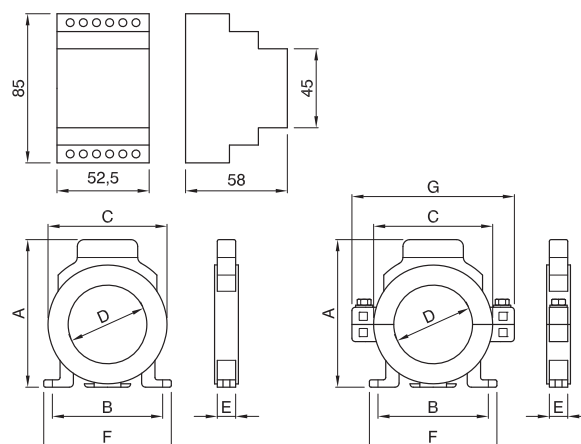
MOTOR PROTECTION SWITCHES



SURFACE-MOUNTING BOX FOR MOTOR PROTECTION SWITCHES



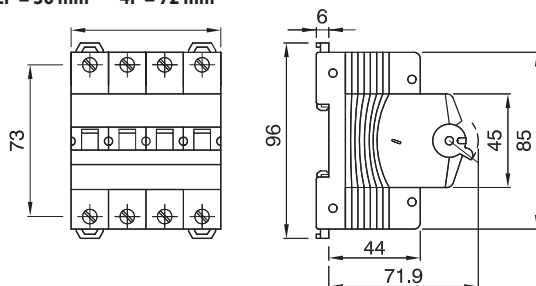
EARTH LEAKAGE RELAY CONTROL SYSTEM AND SOLID CORE



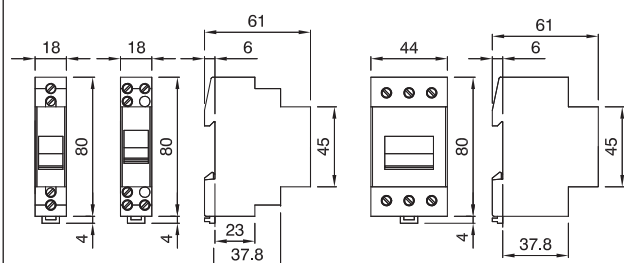
	D	A	B	C	E	F	G
GW 96 332	35	118	90	78.5	27	104	
GW 96 333	80	163	110	114.5	27	117	
GW 96 334	110	198	140	150.5	32	155	
GW 96 335	210	298	210	250.5	32	227	
GW 96 336	110	198	140	150.5	32	155	198
GW 96 337	210	298	210	250.5	32	227	296

SWITCH DISCONNECTORS

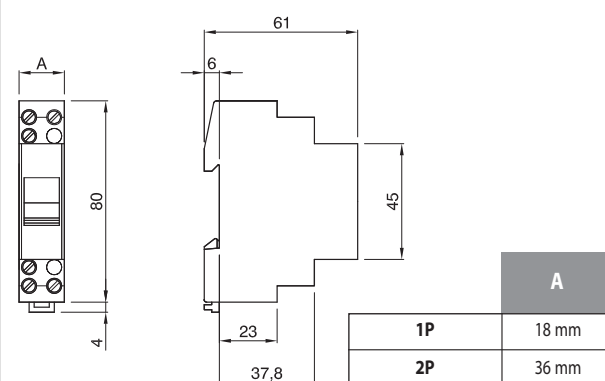
1P = 18 mm 3P = 54 mm
2P = 36 mm 4P = 72 mm



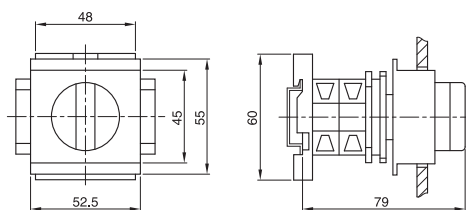
ON-OFF SWITCHES



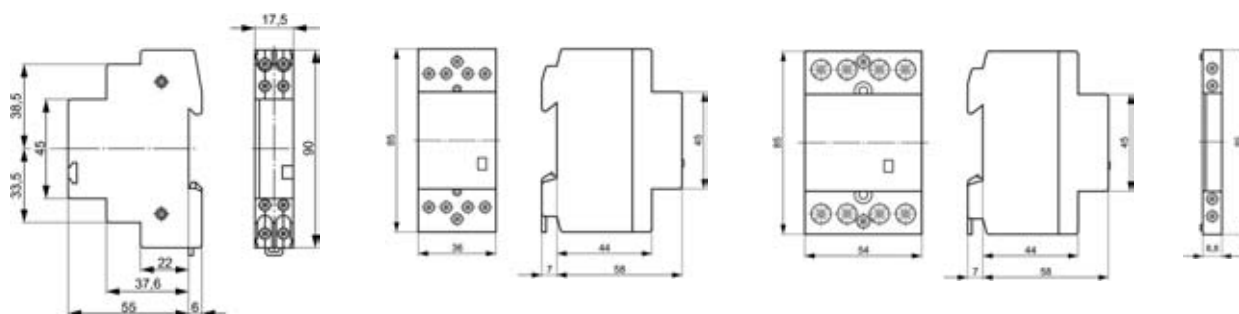
LEVER SWITCHES



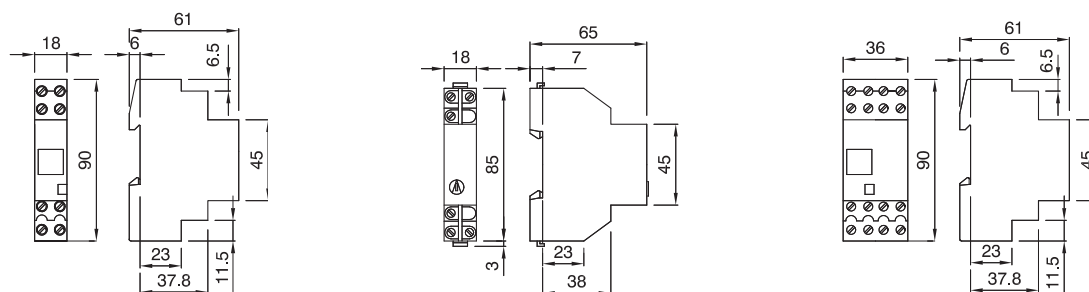
THREE-WAY SWITCHES - VOLTMETRIC AND AMPEROMETRIC CHANGEOVER SWITCHES



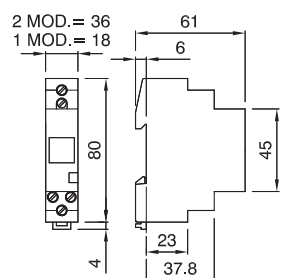
CONTACTORS



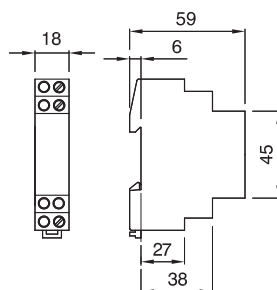
MOMENTARY RELAYS



IMPULSE SWITCHES



BIOCOMFORT



TIME SWITCHES

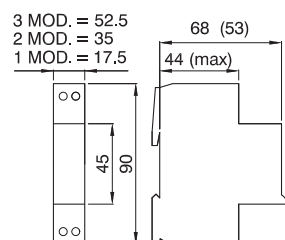
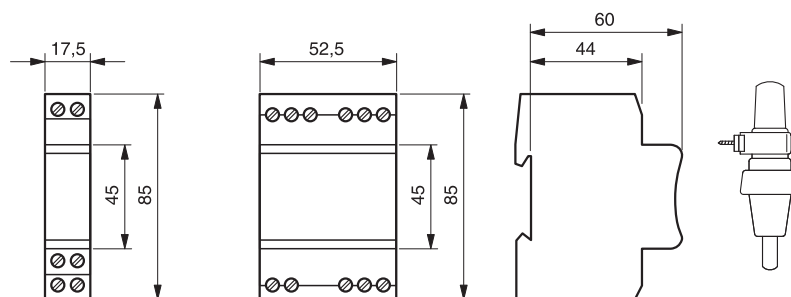
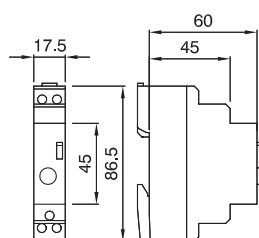


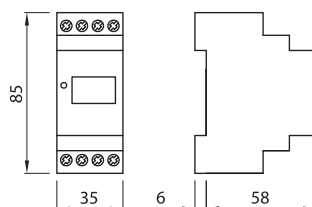
PHOTO-ELECTRIC CELLS



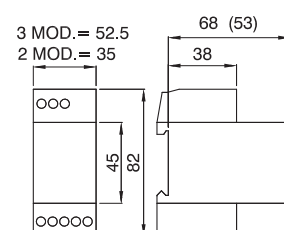
STAIRCASE LIGHTING TIMER SWITCHES



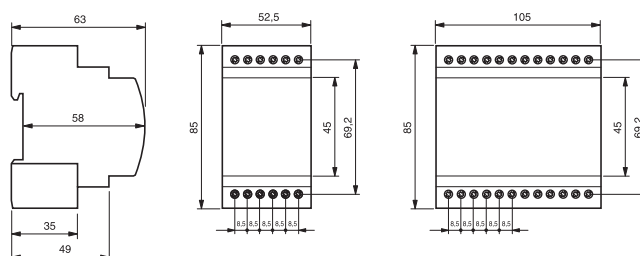
VOLTMETERS AND AMMETERS



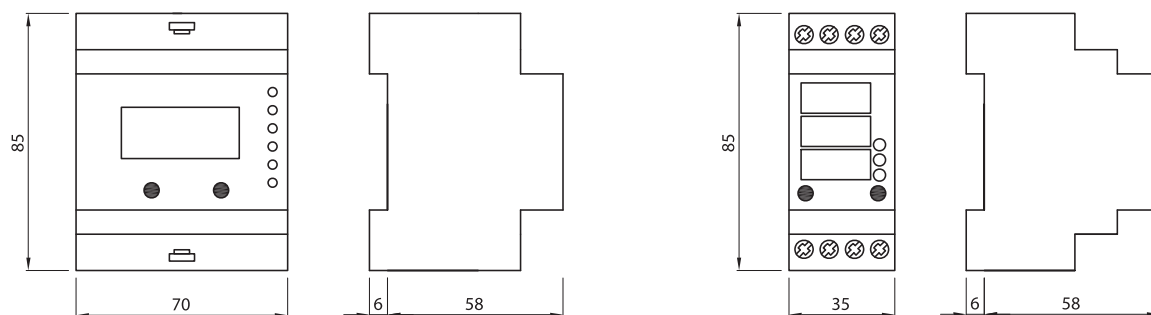
HOURLY METER



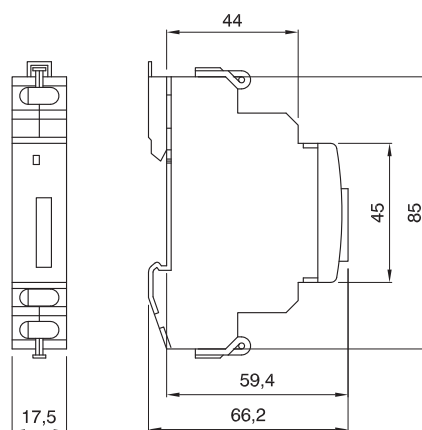
ENERGY METERS



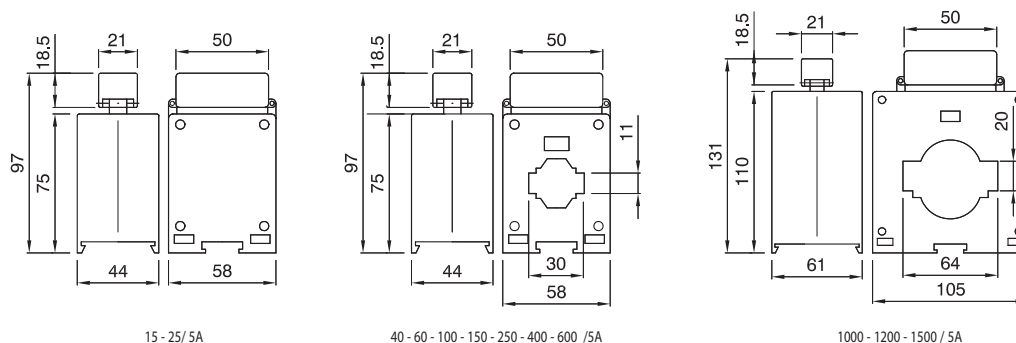
NETWORK ANALYSER, MULTIMETER



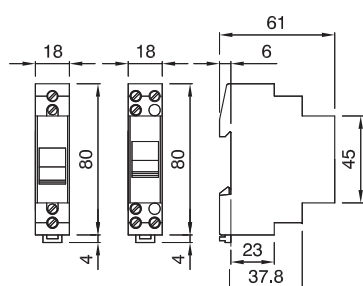
COMPACT ENERGY METER



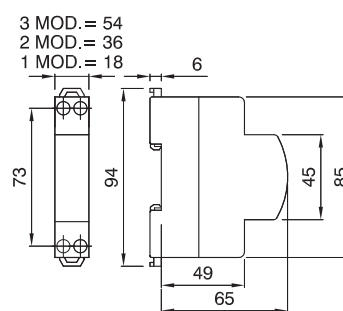
CURRENT TRANSFORMERS



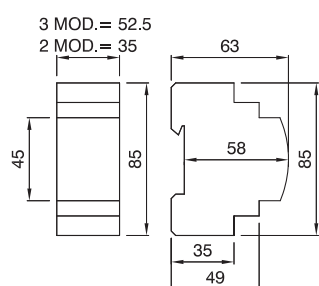
LAMPS AND BACK-LIT PUSH-BUTTONS



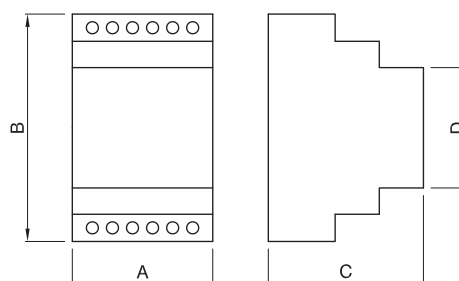
BELLS AND BUZZERS



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