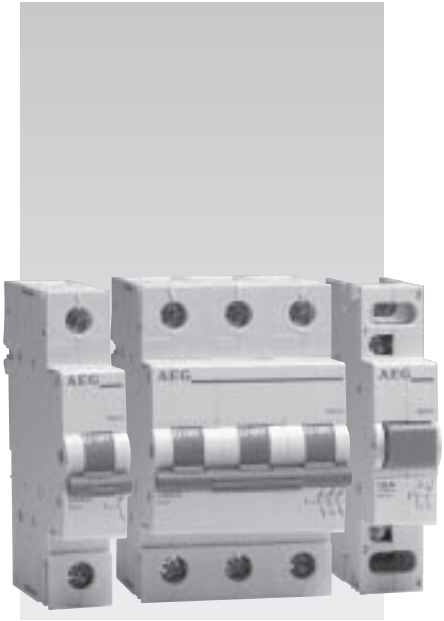
Switches and Push-buttons



Function

Manual control of all kinds of electrical devices.

Approval

Applications

Switching of lighting and heating in homes, shops, offices, warehouses, factories, hospitals, etc.

Features

Wide range with respect to available contact combinations and switching capacity. Mains disconnect switches and switches with change-over contact and off position available.
Compact (4-pole in 1 module) with high switching capacity due to double interruption per path.
All switches are sealable through padlock or by means of a lock.
The terminals are equipped with captive Pozidriv screws and have IP20 protection degree.
Mains disconnect switches accepts auxiliary contacts H.

Standards

Switches 16/32A	BS EN 60669-1 VDE 0632 Part 1
Mains disconnect switches 40-100	BS EN 60947-3 VDE 0632 Part 101

Performance

	Mains disconnect switches	Switches		Push-buttons
Nominal rated current	*40-63-100A*	*16A*	*32A*	*16A*
Usable as mains disconnect switch	yes	no		no
Impulse withstand voltage	8kV	-		-
Utilization category	AC-22A	-		-
Nominal voltage single pole devices	240/415V	240V		240V
Nominal voltage multipole devices	240/415V	415V		-
Maximum allowed current during less than 1 s.	2kA	-		-
Mechanical service life (complete on-off-cycle)	>10000	>20000		>20000
Electrical service life, cos φ = 0.95, Un and In	>1500	>20000	>5000	>20000
Short-circuit resistance with upfront fuses	16kA (nominal)	4.5kA (nominal)		4.5kA (nominal)
Protection degree	IP20	IP20		IP20
Screws	Pozidriv 2	Pozidriv 1		Pozidriv 1
Terminal capacity: min	1x6mm^2	1x1.5mm^2		1x1.5mm^2
max	1x50mm^2	1x10mm^2		1x10mm^2

Dimensions ● pg D.34

Switches and Push-buttons

	Nominal current	Contact combination	Number of modules	Cat. No.	Ref. No.	Pack.
Mains disconnect switch	40A/240V	1NO	1	ASR1040	**666985**	12
	40A/415V	2NO	2	ASR2040	**666986**	6
	40A/415V	3NO	3	ASR3040	**666987**	4
	40A/415V	4NO	4	ASR4040	**666988**	3
	63A/240V	1NO	1	ASR1063	**666957**	12
	63A/415V	2NO	2	ASR2063	**666958**	6
	63A/415V	3NO	3	ASR3063	**666959**	4
	63A/415V	4NO	4	ASR4063	**666960**	3
	100A/240V	1NO	1	ASR10100	**666953**	12
	100A/415V	2NO	2	ASR20100	**666954**	6
	100A/415V	3NO	3	ASR30100	**666955**	4
	100A/415V	4NO	4	ASR40100	**666956**	3
Switch	16A/240V	1NO	1	ASV1016	**666966**	12
	16A/240V	2NO	1	ASV2016	**666968**	12
	16A/415V	3NO	1	ASV3016	**666969**	12
	16A/415V	4NO	1	ASV4016	**666970**	12
	32A/240V	1NO	1	ASV1032	**666972**	12
	32A/240V	2NO	1	ASV2031	**666974**	12
	32A/415V	3NO	1	ASV3032	**666975**	12
	32A/415V	4NO	1	ASV4032	**666976**	12
Changeover switch	16A/240V	1CO	1	WSV1016	**666965**	12
	16A/240V	2CO	1	WSV2016	**666967**	12
	32A/240V	1CO	1	WSV1032	**666971**	12
	32A/415V	2CO	1	WSV2032	**666973**	12
Switch with signal lamp	16A/240V	1NO	1	ASV-L1016	**666977**	12
	16A/240V	2NO	1	ASV-L2016	**666978**	12
	32A/240V	1NO	1	ASV-L1032	**666979**	12
	32A/240V	2NO	1	ASV-L2032	**666980**	12
Changeover witches with zero position	16A/240V	1CO	1	GSV1016	**666981**	12
	16A/240V	2CO	1	GSV2016	**666982**	12
	32A/240V	1CO	1	GSV1032	**666983**	12
	32A/240V	2CO	1	GSV2032	**666984**	12
Push-button	16A/240V	1NC	1	TV0116	**666961**	12
	16A/240V	1NO	1	TV1016	**666962**	12
	16A/240V	1NO 1NC	1	TV116	**666963**	12
Push-button with signal lamp	16A/240V	1NO	1	TV-L1016	**666964**	12

Indication lamp

Function

Status visualisation.

Applications

Mainly used to visualise the status of a (sub)part of the installation, heater, motor, fan, pump etc.

Features

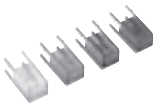
Available in different voltages and with different coloured lenses.

Performance

Nominal voltage	12V	24V	230V
Own consumption	120mA	85mA	2.2mA
Lamp	Incandescent lamp	Incandescent lamp	Neon lamp
Lens colours	Red, green, orange and transparent	Red, green, orange and transparent	Red, green, orange and transparent
Protection degree	IP20	IP20	IP20
Screws	Pozidriv 1	Pozidriv 1	Pozidriv 1
Terminal capacity: min	1x1.5mm^2	1x1.5mm^2	1x1.5mm^2
max	1x10mm^2 / 2x4mm^2	1x10mm^2 / 2x4mm^2	1x10mm^2 / 2x4mm^2

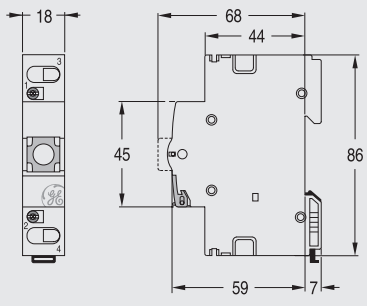
Indication lamp

Order codes



	Nominal operating voltage	Colour	Number of modules	Cat. No.	Ref. No.	Pack.
Lampholder	–	–	1	VL1	**666881**	12
Lamp	12V	–	–	AST B12	**666340**	12
	24V	–	–	AST B24	**666342**	12
	230V	–	–	AST B230	**666341**	12
Lamp LED E10	235V ~/⎓	Green	–	AST LG 230V	**666876**	10
	235V ~/⎓	Amber	–	AST LA 230V	**666874**	10
	235V ~/⎓	Red	–	AST LR 230V	**666877**	10
	235V ~/⎓	Blue	–	AST LB 230V	**666875**	10
	235V ~/⎓	White	–	AST LW 230V	**666878**	10
Lens	–	Transparent	–	AST L CL	**666343**	12
	–	Green	–	AST L GN	**666344**	12
	–	Orange	–	AST L OR	**666345**	12
	–	Red	–	AST L RD	**666346**	12

Dimensions



Socket-outlet

Standards

BS EN C61112-1, NF C61-303 (86), IEC 60884-1

Approval

Performance

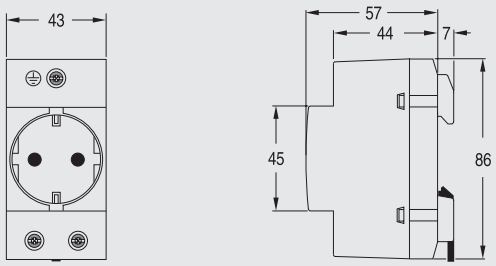
Nominal current	*16A*
Nominal voltage	250V
Operating temperature	-20 ... +55°C
Protection degree	IP20
Screws	Pozidriv 2
Terminal capacity: min	1x1 mm^2
max	1x6 mm^2 or 2x2.5 mm^2

Socket-outlet

Order codes

	Nominal current	Nominal voltage	Number of modules	Cat. No.	Ref. No.	Pack.
Edged earth	16A	250V	2,5	NST16	**666938**	1

Dimensions



Contactors

Function

Contactors are electromechanically controlled switches used to control single or multi-phase (high) power loads while the control itself can be (very) low power.

Applications

Switching of lighting, heating-equipment, motors for pumps and fans, ... Day and night contactors are used mainly in combination with dual-tariff applications to allow high-energy-loads (i.e. electrical water heaters, accumulation heaters) only to consume energy during the low-tariff period. A forced-on, forced-off, auto-switch allows to overrule the normal operation of the DN-contactor at all times.

Features

Except for the 20A version, all contactors have DC coils, resulting in an absolutely noise-free, real silent operation: 50 or 60Hz noise generation by the contactor is impossible. As all DC coil contactors have an internal diode rectifier bridge, they all can be operated by both DC and AC power supplies. The built-in varistor protects the coil against an overvoltage of up to 5kV. The switch position of the contactor is visualised through an indicator flag. The loss-proof safety terminals are equipped with Pozidriv screws and have IP20 protection degree. Add-on auxiliary contacts as well as spacers and sealing pieces are available.

Standards

IEC 60947-4-1, BS EN 60947-4-1, IEC 61095, BS EN 61095.
Approval VDE

Performance

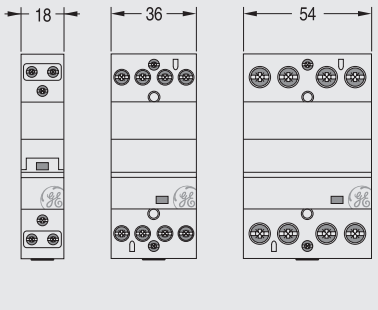
Rated switching capacity	**20A**	**24A**	**40A**	**63A**
Rated insulation voltage	400V	500V	500V	500V
Rated operational voltage	250V	440V	440V	440V
Switching-on capacity				
cos φ = 0.65 at 380-400V 3phase	-	90A	220A	300A
cos φ = 0.95 at 220-230V 1phase	100A	-	-	-
Switching-off capacity				
cos φ = 0.65 at 380-400V 3phase	-	72A	176A	240A
cos φ = 0.95 at 220-230V 1phase	80A	-	-	-
Fuse type GL for short-circuit protection	20A	35A	63A	80A
Ohmic loss per contact at In	1.0W	1.5W	3.0W	6.0W
Maximum switching frequency AC1 / AC7a	300/h	300/h	300/h	300/h
Maximum switching frequency AC3 / AC7b	600/h	600/h	600/h	600/h
Mechanical service life	10^6	10^6	10^6	10^6
Electrical service life AC1 / AC7a	150000	150000	150000	150000
Electrical service life AC3 / AC7b	150000	500000	170000	240000
Screws	Pozidriv 1	Pozidriv 1	Pozidriv 2	Pozidriv 2
Terminal capacity: min	1x1 mm^2	1x1 mm^2	1x1.5 mm^2	1x1.5 mm^2
max	1x10mm^2 or 2x4 mm^2	1x10mm^2 or 2x4 mm^2	1x25mm^2 or 2x10 mm^2	1x25mm^2 or 2x10 mm^2
Magnetic control system				
Control voltage range	85 ... 110%xUn	85 ... 110%xUn	85 ... 110%xUn	85 ... 110%xUn
Rated operating frequency	50 or 60Hz	DC, 40 ... 450Hz	DC, 40 ... 450Hz	DC, 40 ... 450Hz
Operating temperature range	-25 ... +55°C(1)	-25 ... +55°C(1)	-25 ... +55°C(1)	-25 ... +55°C(1)
Maximum pull-in coil power loss	8.0VA / 5.0W	4VA / 4W	5VA / 5W	65VA / 65W
Maximum holding coil power loss	3.2VA / 1.2W	4VA / 4W	5VA / 5W	4.2VA / 4.2W
Switching-on delay	9 ... 12 ms	< 40 ms	< 40 ms	< 40 ms
Switching-off delay	10 ... 12 ms	< 40 ms	< 40 ms	< 40 ms
Screws	Pozidriv 1	Pozidriv 1	Pozidriv 1	Pozidriv 1
Terminal capacity: min	1x1 mm^2	1x1 mm^2	1x1 mm^2	1x1 mm^2
max	1x4mm^2 or 2x2.5 mm^2	1x4mm^2 or 2x2.5 mm^2	1x4mm^2 or 2x2.5 mm^2	1x4mm^2 or 2x2.5 mm^2

(1) Remark: If several contactors are mounted next to each-other and the time of operation exceeds 1 hour and the ambient temperature rises above 40°C, a 1/2-module spacer must be added every second contactor (i.e. contactor contactor spacer contactor contactor spacer contactor contactor etc.)

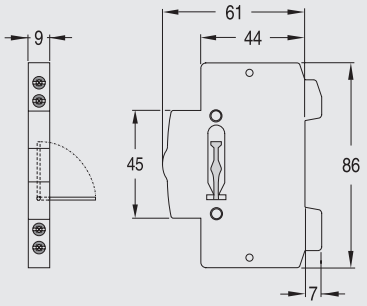
Contactors

	Contactor	Nominal current	Contact combination	Coil voltage	AC/DC	Number of modules	Cat. No.	Ref. No.	Pack.
	 1 NO 1 NC	20A	2NO	12V	AC	1	VI2020J5	**666786**	12
		20A	2NO	24V	AC	1	VI2020B5	**666788**	12
		20A	2NO	230V	AC	1	VI2020M5	**666787**	12
	 2 NO 2 NC	24A	2NO 2NC	24V	AC/DC	2	VI224BU	**666791**	5
		24A	2NO 2NC	230V	AC/DC	2	VI2224MU	**666790**	5
		24A	3NO	24V	AC/DC	2	VI3024BU	**666793**	5
		24A	3NO	230V	AC/DC	2	VI3024MU	**666792**	5
	 2 NO	24A	4NC	24V	AC/DC	2	VI0424BU	**666795**	5
		24A	4NC	230V	AC/DC	2	VI0424MU	**666794**	5
		24A	4NO	24V	AC/DC	2	VI4024BU	**666797**	5
		24A	4NO	230V	AC/DC	2	VI4024MU	**666796**	5
	 3 NO	40A	2NO	24V	AC/DC	3	VI2040BU	**666799**	3
		40A	2NO	230V	AC/DC	3	VI2040MU	**666798**	3
		40A	3NO	24V	AC/DC	3	VI3040BU	**666801**	3
		40A	3NO	230V	AC/DC	3	VI3040MU	**666800**	3
	 4 NC	40A	4NO	24V	AC/DC	3	VI4040BU	**666803**	3
		40A	4NO	230V	AC/DC	3	VI4040MU	**666802**	3
	 4 NO	63A	4NO	24V	AC/DC	3	VI4063BU	**666806**	3
		63A	4NO	230V	AC/DC	3	VI4063MU	**666805**	3
		63A	2NO	230V	AC/DC	3	VI2063MU	**666804**	3
	**Auxiliary contact**  1 NO 1 NC	6A	1NO 1NC	–	–	0.5	VI1106	**666810**	1
		6A	2NO	–	–	0.5	VI2006	**666811**	1
	 2 NO								
	**Spacer**	–	–	–	–	0.5	VIFS	**666809**	12
	Sealing piece	–	–	–	–	2	VIPK2	**666808**	12
		–	–	–	–	3	VIPK3	**666807**	12

Contactors



Auxiliary contact



Relays

Applications

- Switching of lighting, heating, etc.
- Galvanic insulation of i.e. status signalisation lamps from a (high) power (high voltage) circuit.
- Galvanic insulation of PLC-inputs or outputs to avoid destruction through excessive voltage.

Features

- The switch position is visualised by the position of the front handle.
- The safety terminals are equipped with captive Pozidriv screws and have IP20 protection degree.
- Add-on auxiliary contacts available.
- Because of the advanced product design, no spacers are needed.
- Increased safety: sealing caps for both coil and terminal are available.

Function

Relays are electromechanically controlled switches used to control low power loads.

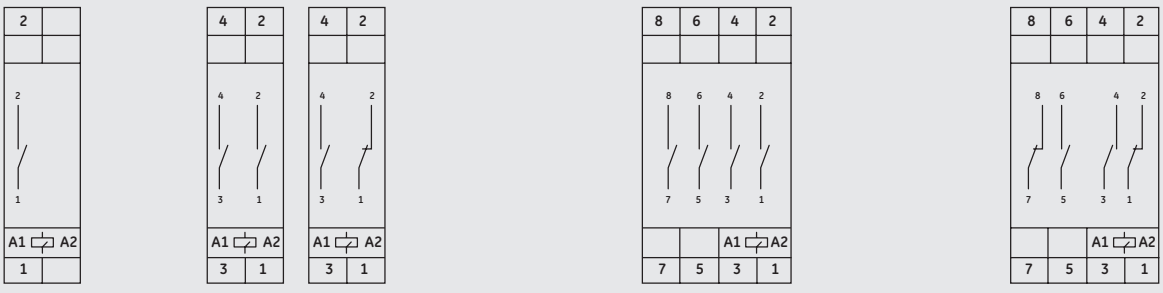
Standard

EN 60947-4-1

Marking

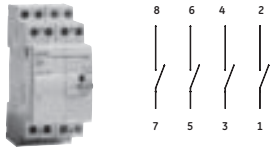
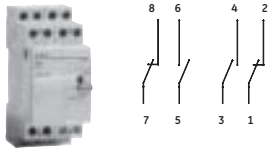
CE

Terminal identification

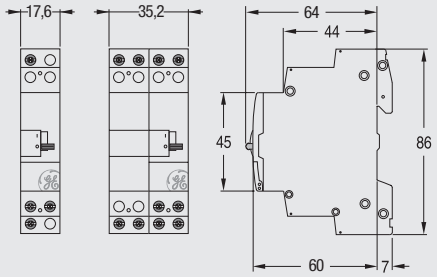


Technical data ● pg D.12

Relays

	Nominal current	Contact combination	Coil voltage AC	Coil voltage DC	Number of modules	Cat. No.	Ref. No.	Pack.
	16A	1NO	8	-	1	VFR+1016A5	**686220**	12
	16A	1NO	12	6	1	VFR+1016J5	**686223**	12
	16A	1NO	24	12	1	VFR+1016B5	**686221**	12
	16A	1NO	48	24	1	VFR+1016E5	**686222**	12
	16A	1NO	230	115	1	VFR+1016M5	**686224**	12
	16A	1NO	240	120	1	VFR+1016P5	**686225**	12
	16A	1NO 1NC	8	-	1	VFR+1116A5	**686226**	12
	16A	1NO 1NC	12	6	1	VFR+1116J5	**686229**	12
	16A	1NO 1NC	24	12	1	VFR+1116B5	**686227**	12
	16A	1NO 1NC	48	24	1	VFR+1116E5	**686228**	12
	16A	1NO 1NC	230	115	1	VFR+1116M5	**686230**	12
	16A	1NO 1NC	240	120	1	VFR+1116P5	**686231**	12
	16A	2NO	8	-	1	VFR+2016A5	**686232**	12
	16A	2NO	12	6	1	VFR+2016J5	**686235**	12
	16A	2NO	24	12	1	VFR+2016B5	**686233**	12
	16A	2NO	48	24	1	VFR+2016E5	**686234**	12
	16A	2NO	230	115	1	VFR+2016M5	**686236**	12
	16A	2NO	240	120	1	VFR+2016P5	**686237**	12
	16A	2NO 2NC	8	-	2	VFR+2216A5	**686238**	6
	16A	2NO 2NC	12	6	2	VFR+2216J5	**686241**	6
	16A	2NO 2NC	24	12	2	VFR+2216B5	**686239**	6
	16A	2NO 2NC	48	24	2	VFR+2216E5	**686240**	6
	16A	2NO 2NC	230	115	2	VFR+2216M5	**686242**	6
	16A	2NO 2NC	240	120	2	VFR+2216P5	**686243**	6
	16A	4NO	8	-	2	VFR+4016A5	**686244**	6
	16A	4NO	12	6	2	VFR+4016J5	**686247**	6
	16A	4NO	24	12	2	VFR+4016B5	**686245**	6
	16A	4NO	48	24	2	VFR+4016E5	**686246**	6
	16A	4NO	230	115	2	VFR+4016M5	**686248**	6
	16A	4NO	240	120	2	VFR+4016P5	**686249**	6

Dimensions



Relays: Performance

			Relays VFR+
Rated current (according to EN 60947-4-1)			
250V AC (1 & 2 pole) / 400V AC (3 & 4 pole)		A	16
Nominal thermal current (Ith)		A	16
Number of pole			1 → 4
Contacts	NO		1 → 4
	Changeover ("m" contacts)		1 → 4
	NO + NC		1+1 / 2+2
Width (in 17.8mm DIN modules)	1P & 2P	Mod.	1
	3P & 4P	Mod.	2
Coil specifications			
Supply voltage: DC/AC ratio(1)			0.5 / 1
Supply voltage range (in % of Un)		%	85-110
Coil pick-up power	1P & 2P	VA	3.4
	3P & 4P	VA	6.7
Coil power loss - AC	1P & 2P	VA	1.8
	3P & 4P	VA	3.4
Coil power loss - DC	1P & 2P	W	2.1
	3P & 4P	W	3.9
Maximum coil holding voltage time			unlimited
Contact bounce time at closing		sec.	<0.010
Operate and release time (bounce time incl.)			
Pick-up time	NO contact	sec.	< 0.040
(from 0 to Un)	NC contact	sec.	< 0.020
Drop-out time	NO contact	sec.	< 0.050
(from Un to 0)	NC contact	sec.	< 0.050
Maximum peak current at closing			
Single phase 250V AC cos φ = 0.95		A	45
3-phase 400V~ cos φ = 0.65		A	60
Maximum peak current at opening			
Single phase 250V AC cos φ = 0.95		A	75
3-phase 400V~ cos φ = 0.65		A	60
Lifetime (in number of operations)(2)			
Electrical (in AC-1 - At full load)			3×10^5
Mechanical			2×10^6
Load specifications per phase			
Maximum load AC-1	1P & 2P	kW	3.0
	3P & 4P	kW	8.5
Maximum load AC-5b		kW	1.8
Maximum load AC-7b		kW	0.9
Maximum load AC-3	250V AC	kW	1.5
	400V AC	kW	2.2
Minimum load (under 5V)		W	2
Short-circuit fuse protection		A	20
Maximum lamp load (10^3 operations/h)			
Incandesc. & halogen (40 to 200W lamps)		W	1,800
Fluorescence, compensated (cos φ = 0.9)			
	Serial compensation	VA	1,800
	Parallel compensation	VA	500
Fluorescence, non compensated (cos φ = 0.5)		VA	900
General specifications			
Auxiliary contact add-on (PLS / CTX R)			yes
Need for spacer			no
DIN rail mounting			yes
2-position DIN rail lock			yes
Front handle for manual operation			yes
Permanent ON/OFF			no
Indicator of contact position			yes
Clamping terminals			yes
Unlosable screws			yes
Sealable terminals (coil and load)			yes
Cable cross section (Ø min/max)	Coil	mm^2	1.5 / 10
	Load	mm^2	1.5 / 10
Maximum torque on terminals		Nm	1
Ambient temperature at installation point (min./max.)		°C	-20 / +45

(1) DC supply voltage = AC supply voltage x DC/AC ratio, except for 8V AC and 115V AC (48V DC)

(2) 1 cycle = 2 operations per pole (closing + opening)

Impulse switches and relays: maximum lamp loads

Lamps type	Lamp Watts Power consumption	Relays VFR+	Impulse switches VFS+
Incandescent lamps			
Max. load 230V AC		1800W	3000W
Max. number of lamps	15W	120	200
	25W	72	120
	40W	45	75
	60W	30	50
	75W	24	40
	100W	18	30
	150W	12	20
	200W	9	15
	300W	6	9
	500W	3	5
Fluor lamp PF uncorrected			
Max. load 230V AC		900W	1800W
Max. number of lamps	18W	50	81
	36W	25	44
	40W	23	38
	58W	16	29
	65W	13	26
Fluor twin lamps			
Max. load 230V AC		1800W	3000W
Max. number of lamps	2 x 18W	50	78
	2 x 36W	25	38
	2 x 40W	23	35
	2 x 58W	16	23
	2 x 65W	13	22
Fluor lamp parallel compensation			
Max. load 230V AC		500W	2500W
Max. number of lamps	18W	17	103
	36W	13	55
	40W	12	50
	58W	8	34
	65W	7	30
Halogen 230V			
Max. load 230V AC		1800W	3000W
Max. number of lamps	150W	12	20
	250W	7	12
	300W	6	10
	400W	4	7
	500W	3	6
	1000W	2	3
HP sodium vapour			
Max. load 230V AC		800W	1200W
Max. number of lamps	70W	10	15
	150W	5	8
	250W	3	4
	400W	2	3
	1000W	-	1
LP sodium vapour			
Max. load 230V AC		400W	1400W
Max. number of lamps	55W	6	27
	90W	4	16
	135W	3	11
	180W	2	8
	185W	2	8
HP mercury vapour			
Max. load 230V AC		800W	1200W
Max. number of lamps	50W	16	19
	80W	10	15
	125W	7	9
	250W	3	4
	400W	2	3
	1000W	-	1
VLV halogen			
Max. load 230V AC		1500W	2300W
Max. number of lamps	20W	72	116
	50W	29	46
	75W	20	31
	100W	15	24
	150W	10	15
	200W	7	12
	300W	5	7
Electronic reactor			
Max. load 230V AC		1000W	1600W
Max. number of lamps	1 x 18W	38	83
	1 x 36W	30	46
	1 x 58W	17	31
	2 x 18W	19	40
	2 x 36W	15	23
	2 x 58W	8	14

Impulse switches

Function

Impulse switches are electromechanically controlled switches used to control single- or multi-phase medium-power loads while the control itself can be (very) low power. The device switches between 2 stable positions, each time a (brief) impulse energises its control circuit.

Applications

Mainly used for the switching of lighting and heating equipment and/or to obtain a simplified wiring in case the load needs to be controlled at reduced voltage and/or from more than 2 different places.

Features

- Besides the normal operation through electrically energising the coil, manual operation is possible at all times, except series VSF+2016.
- The switch position is visualised by the position of the front handle for all devices, except series VSF+2016.
- The central command version was developed to force several devices at the same time to the on or off position, independently of the current status of each individual device. Also in this case, the possibility of operating the device locally remains.
- The safety terminals are equipped with captive Pozidriv screws and have IP20 protection degree.
- An add-on auxiliary contact, and a spacer are available.
- The use of a large number of luminous push-buttons is possible.

For the table Impulse switches maximum lamp loads, see page D.11

Standards

IEC 60669-1, IEC 60669-2-2

Marking

CE

Technical data ● pg D.14
Dimensions ● pg D.15

Impulse switches

	Nominal current	Contact combination	Coil voltage AC	Coil voltage DC	Number of modules	Cat. No.	Ref. No.	Pack.
Impulse switches	16A	1NO	8	-	1	VFS+1016A5	**686254**	12
	16A	1NO	12	6	1	VFS+1016J5	**686257**	12
	16A	1NO	24	12	1	VFS+1016B5	**686255**	12
	16A	1NO	48	24	1	VFS+1016E5	**686256**	12
	16A	1NO	230	115	1	VFS+1016M5	**686258**	12
	16A	1NO	240	120	1	VFS+1016P5	**686259**	12
	16A	1NO 1NC	8	-	1	VFS+1116A5	**686260**	12
	16A	1NO 1NC	12	6	1	VFS+1116J5	**686263**	12
	16A	1NO 1NC	24	12	1	VFS+1116B5	**686261**	12
	16A	1NO 1NC	48	24	1	VFS+1116E5	**686262**	12
	16A	1NO 1NC	230	115	1	VFS+1116M5	**686264**	12
	16A	1NO 1NC	240	120	1	VFS+1116P5	**686265**	12
	16A	2NO	8	-	1	VFS+2016A5	**686266**	8
	16A	2NO	12	6	1	VFS+2016J5	**686269**	8
	16A	2NO	24	12	1	VFS+2016B5	**686267**	8
	16A	2NO	48	24	1	VFS+2016E5	**686268**	8
	16A	2NO	230	115	1	VFS+2016M5	**686270**	8
	16A	2NO	240	120	1	VFS+2016P5	**686271**	8
Add-on power contact	16A	2NO	-	-	1	VFS+ 16 20	**686251**	10
	16A	1NO 1NC	-	-	1	VFS+ 16 11	**686250**	10
Step by step multi circuit **Steps = 0-A-AB-B-0**	16A	1NO 1NC	12	6	1	VSF+ S2016J5	**686274**	12
	16A	1NO 1NC	230	115	1	VFS+S2016M5	**686272**	12
All-in central command	16A	1NO	12	6	1	VSF+Z1016J5	**686277**	12
	16A	1NO	24	12	1	VSF+Z1016B5	**686275**	12
	16A	1NO	48	24	1	VSF+Z1016E5	**686276**	12
	16A	1NO	230	115	1	VSF+Z1016M5	**686278**	12
	16A	2NO	12	6	1.5	VSF+Z2016J5	**686281**	8
	16A	2NO	24	12	1.5	VSF+Z2016B5	**686279**	8
	16A	2NO	48	24	1.5	VSF+Z2016E5	**686280**	8
	16A	2NO	230	115	1.5	VSF+Z2016M5	**686282**	8
Add-on auxiliary contact	-	1NO 1NC	-	-	0.5	VFS+Z 5 11	**686035**	16
Spacer	-	-	-	-	0.5	CTX SP	**686069**	50

Terminal identification, see page D.15

Impulse switches: Performance

			VFS+10... VFS+11... VFS+20...	VFS+S20...	VFS+Z10... VFS+Z20...
Rated current (acc. to IEC 669-2-3)					
250VAC (1 & 2 pole) / 400VAC (3 & 4 pole)		A	16	16	16
Direct Current (at 30VDC)		A	16	16	16
Number of poles			1 → 4	2	1 → 3
Contacts	NO		1 → 4	2	1 → 3
	Changeover ("m")		1 → 4	-	1 → 3
	NO + NC		1+1 / 2+2	-	-
Width (in 17.8mm DIN modules)					
	1 P	Mod.	1	-	1
	2 P	Mod.	1	1	1½
	3 P	Mod.	2	-	2
	4 P	Mod.	2	-	-
Coil specifications					
Supply voltage: DC/AC ratio(1)			0.5 / 1	0.5 / 1	0.5 / 1
Supply voltage range (in % of Un)		%	90-110	90-110	90-110
Coil pick-up power (AC)	1P & 2P	VA	14.5	14.5	14.5
	3P & 4P	VA	14.5	-	16.0
Coil power loss - AC	1P & 2P	VA	11.0	11.0	11.0
	3P & 4P	VA	11.0	-	11.0
Coil power loss - DC	1P & 2P	W	7.5	7.5	12.5
	3P & 4P	W	7.5	-	14.5
Maximum coil holding voltage time			(2)	(2)	(2)
Impulse times					
Minimum impulse time (under Un)		sec.	0.050	0.050	0.100
Minimum impulse time (90% Un)		sec.	0.100	0.100	0.100
Minimum time between impulses		sec.	0.150	0.150	0.150
Maximum number of impulses per mn			250	250	250
Lifetime (in number of operations) (3)					
Electrical (in AC-1 - At full load) (4)			4×10^5	3×10^5	4×10^5
Mechanical			2×10^6	2×10^6	2×10^6
Load specifications					
Maximum load AC-1 per phase		A	20	20	20
Maximum load DC (30VDC)		A	16	16	16
Minimum load per phase (under 5V)		W	2	2	2
Short-circuit fuse protection		A	20	20	20
Maximum lamp load (10^3 operations/h)					
Incandescence & halogen (40 to 200 W lamps)		W	3,000	3,000	3,000
Fluorescence, compensated (cos φ = 0.9)					
	Serial compensation	VA	3,000	3,000	3,000
	Parallel compensation	VA	2,500	2,500	2,500
Fluorescence, non compensated (cos φ = 0.5)		VA	1,800	1,800	1,800
Maximum number of push-buttons					
Non illuminated push-buttons			unlimited	unlimited	unlimited
Luminous push-buttons (0.6mA)					
4 terminals			unlimited	unlimited	unlimited
3 terminals	Without compensator		8	8	8
	1 compensator		18	18	27
	2 compensators		45	45	43
General specifications					
Power contact add-on			yes	no	no
Auxiliary contact add-on (PLS / CTX R)			yes	no	yes
Need for spacer (2)			yes	yes	yes
DIN rail mounting			yes	yes	yes
2-position DIN rail lock			yes	yes	yes
2-position handle			yes	no	yes
Indicator of contact position			yes	yes	yes
Clamping terminals			yes	yes	yes
Unlosable screws			yes	yes	yes
Sealable terminals (coil and load)			yes	yes	yes
Cable cross section (Ø min/max)	Coil	mm²	1.5 / 10	1.5 / 10	1.5 / 10
	Load 1P-3P & 4P	mm²	1.5 / 10	1.5 / 10	1.5 / 10
	Load 2P	mm²	1.5 / 10	1.5 / 10	1.5 / 6
Maximum torque on terminals		Nm	1	1	1
Ambient temperature at installation point (min./max.)		°C	-20 / +45	-20 / +45	-20 / +45

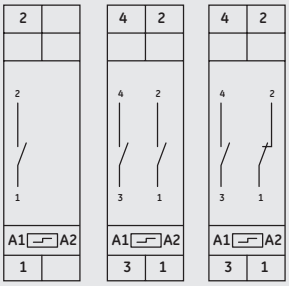
(1) For all impulse relays, DC supply voltage = AC supply voltage x DC/AC ratio, except for 8VAC

(2) Whenever the normal use of the impulse relay integrates a permanent coil working, use of a spacer is required on both sides. Make sure that the duty factor allows the device to come back to the ambient temperature

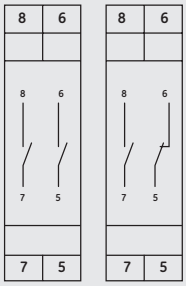
(3) 1 cycle = 2 operations per pole (closing + opening)

Terminal capacity - Impulse switches

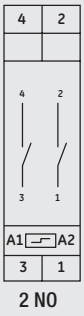
Impulse switches



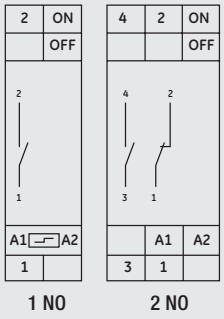
Add-on power contact



Step by step multi circuit

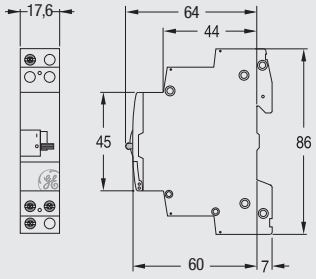


All-in central command

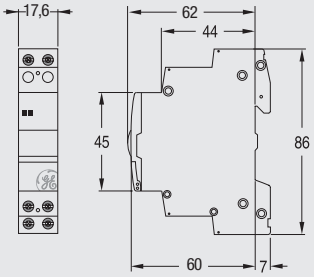


Add-on auxiliary contact

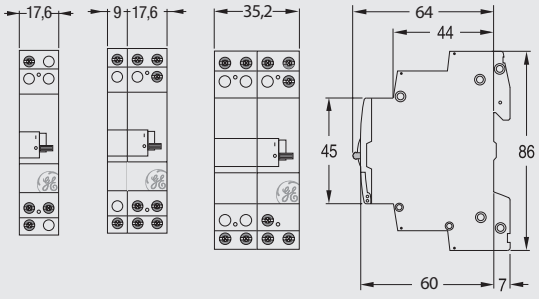
Impulse switches



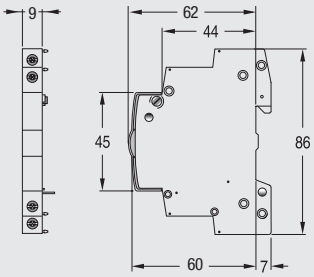
Step by step multi circuit



All-in central command



Add-on auxiliary contact



Staircase switches

Applications

Lighting or ventilation of staircases, basements, halls, etc.

Features

- Designed for a real 3.500W switching capacity.
- User adjustable time.
- Electromechanical contact and electronic timer with manual override off or on possible at all time for VTR4.
- 3 or 4 wire wiring possible.
- Device for pre-extinction warning adjustable from 20 to 40 sec only for incandescence sources.
- Safety terminals equipped with captive Pozidriv screws and IP20 protection degree.
- Anti vandalisme: resistant to blocked push-buttons.

Standard / Marking

EN 60669-2-3 CE

Function

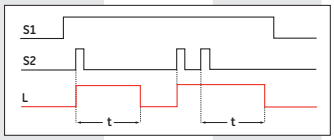
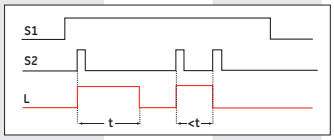
Push-button operated single-shot timer, switching the power to the load after the push-button has been pushed briefly, and switching off again after the presetted time has elapsed.
Energy saving: the VTR5 is especially developed to switch off during the preset time when the staircase switch receives a new impulse.

Performance

			VTR5	VTR4	VTRHL
Rated current (acc. IEC 669-2-3)		A	16	16	16
Width (in number of DIN-modules)			1	1	1
Contacts	NO		1	1	1
Time range	1 function		1mn / 20mn	30s / 15mn	20s / 40s
Supply voltage	230V - 50/60Hz		yes	yes	yes
	24VAC / 24VDC		on request	on request	on request
Supply voltage range (in % of Un)		%	90-110	90-110	90-110
Rated power consumption					
Closed circuit current	230V	VA	4.0	4.0	4.0
Working current (ignition & running)	230V	VA	4.0	4.0	4.0
Light types					
Incandescent lamps			yes	yes	yes
Fluorescent lamps			yes	yes	no
Switching capacity					
AC-5b Incandescent lamps (40 to 200 W lamps)		W	3,500	3,500	3,500
Fluorescence compensated (cos φ = 0.9)					
	Serial compensation	W	3,500	3,500	n/a
	Parallel compensation	VA	2,500	2,500	n/a
Lifetime (in number of operations)(1)					
Electrical (AC-1)	at 1,200W		2×10^6	2×10^6	2×10^6
	at full load		1×10^6	3×10^5	3×10^5
Mechanical			1×10^7	1×10^7	1×10^7
Max. number of push-buttons					
Non illuminated push-buttons			unlimited	unlimited	unlimited
Luminous push-buttons (0.6mA):					
4 terminals			unlimited	unlimited	unlimited
3 terminals	Without compensator		39	83	83
	1 compensator (2µF)		45	300	300
	2 compensators (2 x 2µF)		59	600	600
General specifications					
DIN rail mounting			yes	yes	yes
Silent operations			yes	yes	yes
Setting accuracy - Full range		%	+/- 15	+/- 15	+/- 15
3-wire and 4-wire installation			yes	yes	yes
Resistent to blocked push-buttons			yes	yes	yes
Continuously adjustable time-lag			yes	yes	yes
Manual switching (number of positions)			2	3	-
Front switch-off lever			yes	yes	-
Clamping screw terminals, unlosable screws			yes	yes	yes
Cable cross section (Ø min/max)	Coil	mm^2	1.5 / 10	1.5 / 10	1.5 / 10
	Load	mm^2	1.5 / 10	1.5 / 10	1.5 / 10
Maximum torque on terminals		N x m	1	1	1
Ambient temperature at installation point (min./max.)		°C	-20 / +45	-20 / +45	-20 / +45

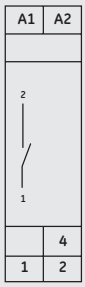
(1) cycle = 2 operations per pole (closing + opening)

Staircase switches

	Nominal current	Contact combination	Coil voltage AC	Coil voltage DC	Number of modules	Cat. No.	Ref. No.	Pack.
Staircase switch   	16	1NO	230	-	1	VTR 4	**686031**	12
Dimmer for staircase switch 	16	3500W	230	-	1	VTRHL	**686033**	12
	To be used only in combination with the staircase switch.							
Time-delay impulse relay   	16	1NO	230	-	1	VTR 5	**686252**	12

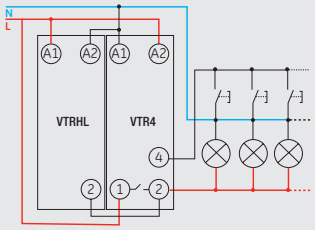
Terminal identification

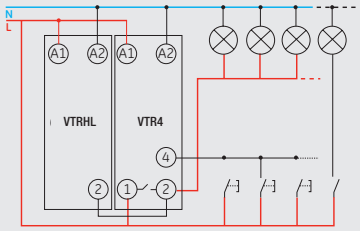
Staircase switch
Time-delay impulse relay



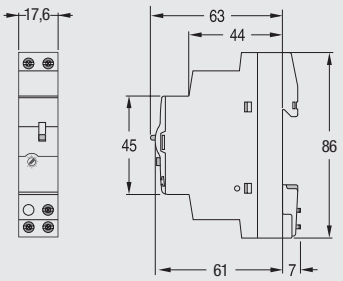
Dimmer for staircase switch

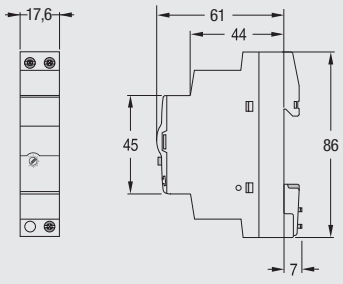
Wiring diagrams





Dimensional drawings





Time relays

Function

Conditioning of incoming source to exact predictable output.

Standard / Marking

IEC 60669-2-3 CE

Applications

From the delayed lighting of driveways (to avoid unneccessary on/off switching), to after-circulation of a pump (to build in some hysteresis, again to avoid continuous on/off switching) to the post-present ventilation of a meeting room.

Features

- Devices with delay on (ON), delay off (OFF) and positive edge single shot (PS).
- User presettable prescaler and time.
- The loss-proof safety terminals are equipped with Pozidriv screws and have IP20 protection degree.

Performance

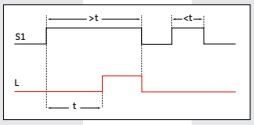
			PLT +
Rated current (acc. IEC 669-2-3)		A	16
Width (number of DIN-modules)			1
Contacts	Changeover		1
	Static input		-
Time range	1 function		1s / 60mn
	Multifunction		0.1s. / 20h.
Supply voltage	230/240V - 50/60Hz		yes
	24V AC / 24V DC		yes
Supply voltage range (in % of Un)		%	90-110
Rated power consumption			
Closed circuit current	230V	VA	1.5
	24V	VA	0.2
Working current(ignition & running)	230V	VA	4.0
	24V	VA	2.0
Light types			
Incandescent lamps			yes
Fluorescent lamps			yes
Switching capacity			
AC-5b Incandescent lamps (40 to 200 W lamps)		W	2300
Fluorescence compensated (cos φ =0.9)			
	Serial compensation	W	2300
	Parallel compensation	VA	1000
Inductive load cos φ =0.5			10A
	Load AC-7b	W	900
Lifetime (in number of operations) (1)			
Electrical (AC-1)	at 1,200W		2×10^6
	at full load		3×10^5
Mechanical			1×10^7
General specifications			
DIN rail mounting			yes
Silent operations			yes
Setting accuracy - Full range		%	+/- 15
Continuously adjustable time-lag			yes
Front switch-off lever			no
Clamping screw terminals, unlosable screws			yes
Cable cross section (Ø min/max)	Coil	mm^2	1.5 / 10
	Load	mm^2	1.5 / 10
Maximum torque on terminals		N x m	1
Ambient temperature at installation point (min./max.)		°C	-20 / +45

(1) cycle = 2 operations per pole (closing + opening)

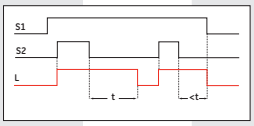
Time relays

	Nominal current	Contact combination	Coil voltage AC	Coil voltage DC	Number of modules	Cat. No.	Ref. No.	Pack.
Operating scale from 1 sec. up to 60 seconds								
Delay on	16	1CO	230	-	1	NVZR+AV	**668029**	12
Operating scale from 1 min. up to 60 minutes								
Delay off	16	1CO	230	-	1	NVZR+RV	**686273**	12
Operating scale from 1 sec. up to 60 seconds								
Positive edge single shot	16	1CO	230	-	1	NCZR+EW	**686283**	12
Symmetrical flasher	16	1CO	230	-	1	NVZR+TI	**686287**	6

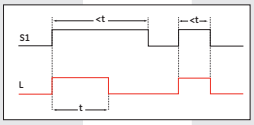
Delay on



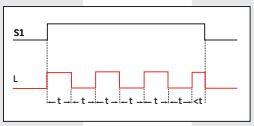
Delay off



Positive edge single shot

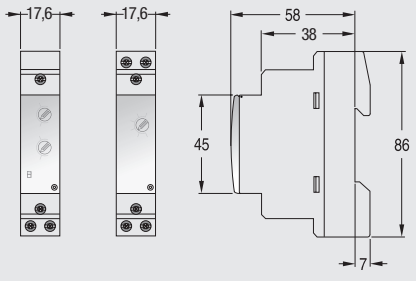


Symmetrical flasher



Terminal designation

Dimensional drawings



Digital time switches

Function

Pre-programmed switching of all kinds of electrical devices.

Applications

Going from the pre-programmed switching of lighting (car park, advertising signs, public roads, etc.) over pre-programmed switching of heating equipment (home and work environment, water heating, etc.) to the pre-programmed switching of motors for pumps and fans and even to random presence simulation.

Features

Very easy programming, with quasi unlimited possibilities compared to the analogue time switches. Devices with daily/weekly event programming possibilities are available in 1 channel execution.
All devices have a shortest switching time of one minute and are all internally quartz-synchronized. On the devices, the summer/winter time change is fully automatic. Devices with free weekday block-programming, holiday function are available. Manual ON or OFF override is possible at all times and all devices are sealable.

Standards

BS EN-60730-1, BS EN-60730-2-7, VDE 0633

Performance

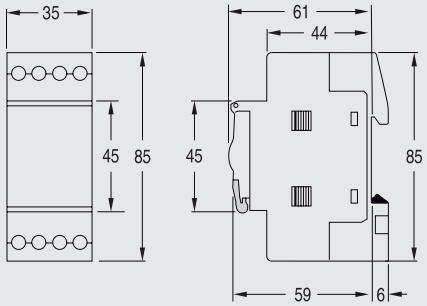
Contacts	**GD - 7-70/1**
Contact	Voltage-free changeover
Rated switching capacity	
- Resistive load	16A/250V
- Inductive load (cos φ = 0.6)	10A/250V
- Incandescent lamps	2600W
Fluorescent uncorrected / serial corrected	1000VA
- Halogen lamp load	2600W
- Compact fluorescent lamp	22 x 7W, 18 x 11W, 16 x 15W, 16 x 20W, 14 x 23W
- Energy saving lamps	37 x 7W, 30 x 11W, 26 x 15W, 26 x 20W, 11 x 23W
Minimum switching load	3000mW
DC switching capacity	800mA / 300mA / 150mA
Shortest switching time	1min.
Screws	Pozidriv 1
Terminal capacity	1 x 4mm²
Clockwork	
Operating voltage	110V-230V AC
Own consumption at 230V	1VA
Running reserve (at 20° C)	3 years at 20°C
Battery type	CR2032
Operating temperature range	-25°C to +55°C
Accuracy	±0.5s./day at 20°C
Sealable and unloosable cover	yes

Digital time switches

	Program	No. of channels	Switching capacity	Operating voltage	Running reserve	Shortest switching time	No.of prog. steps	No. of mod.	Cat. No.	Ref. No.	Pack.
Day/Week programmable	7x24h	1CO	16A/250V	110...230V	3 years	1min.	70	2	GD-7-70/1 AEG	**666350**	1

- Display lighting
- PIN-code
- Hour counter with service function
- 12/24h time setting
- Weekly and holiday program (ON/OFF)
- Free weekdays block formation
- Summer/winter time changeover: auto/free selectable/OFF
- Manual switch: auto/override/fix ON-OFF
- Non-volatile memory (EEPROM)
- Easy battery replacement (from top side)

Dimensional drawings



Light sensitive switches

Applications

Control of lighting in shop windows, offices, car parking areas, controlling street lights, advertising signs, sun blinds, shutters, or even lighting in a home to simulate the presence of people.

Features

User presettable switch light intensity, intensity range and hysteresis (to avoid on/off a stable behavior).1 channel with separate photocell is available besides a 1 channel all-in-one device.

Function

Electronic switch controlled by the intensity of the ambient light, detected by a separate or integrated photocell (depending on the model). When the light intensity drops below the threshold setting, the switch changes its state to the on position. An increasing ambient light intensity eventually will switch off the device again.

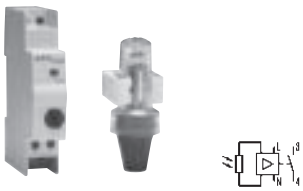
Standards

VDE 0632, VDE 0633,
BS EN 60669-1

Performance

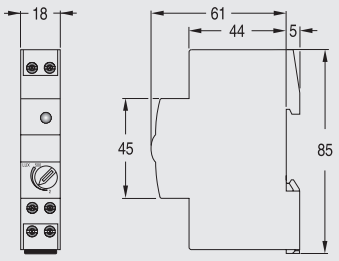
	1 channel GDS	GDSW
Contacts		
Contact	1 make contact NO	1 make contact NO
Switching capacity		
- Resistive load	16A/250V	10A/250V
- Inductive load (cos φ = 0.6)	8A/250V	2A/250V
- Incandescent lamps	2000W	1200W
Switching capacity	800mA at 24V, 300mA at 60V; 150mA at 220V	Not allowed
Shortest switching time	-	-
Screws	Pozidriv 1	Slot head
Terminal capacity: min	1x0.5 mm^2	1x0.5 mm^2
max	1x6 mm^2 or 2x2.5 mm^2	1x6 mm^2 or 2x2.5 mm^2
Light sensitive operating part		
Light intensity switching range	2 ... 500 lux	2 ... 2000 lux
Switching hysteresis		
On/Off switching delay	100 s. On 100 s. Off	20...120 sec.
Light sensitive sensor wire-length	max 100m	-
Light sensitive sensor protection degree	IP65 (sensor)	IP54 (complete device)
Operating voltage	220/240V 50/60Hz	220/240V 50/60Hz
Own consumption at 230V	5VA	6VA
Running reserve	-	-
Battery	-	-
Operating temperature range	-20 ... +55°C (switch) -30 ... +70°C (sensor)	-35 ... +60°C
Sealable	yes	-
Screws	Pozidriv 1	Slot head
Terminal capacity: min	1x0.5 mm^2	1x0.5 mm^2
max	1x6 mm^2 or 2x2.5 mm^2	1x6 mm^2 or 2x2.5 mm^2

Light sensitive switches

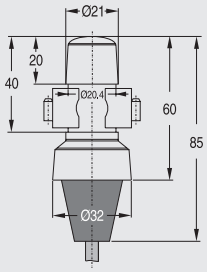
	Program	Number of channels	Nominal current	Operating voltage	Number of modules	Cat. No.	Ref. No.	Pack.
DIN rail mounting, separate photocell included 	2...500 lux	1NO	16A/250V	230V	1	GDS11	**666883**	
Wall mounting photocell incorporated 	2...2000 lux	1NO	16A/250V	230V	–	GDSW	**666884**	1

Dimensions

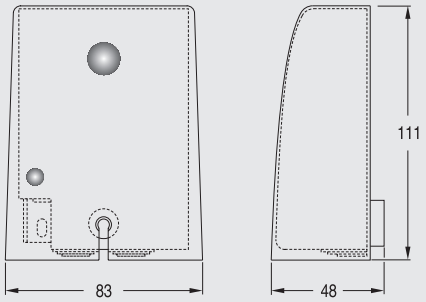
Light sensitive switches



Photocell



Light sensitive switches - wall mounted



Transformers

Applications

Going from supplying power to a bell circuit, to supplying power to the control circuit of impulse switches, relays or contactors for the control of lighting, heating, etc.

Features

Safety transformers have short-circuit protection and continuous nominal power. Bell transformers are recommended for intermittent use at the nominal power declared (50% for continuous use).
Full power available at all secondary voltages. The safety terminals are equipped with captive Pozidriv screws and have IP20 protection degree.

Function

Reducing the voltage to a very low (safety) voltage used mainly as control-voltage in order to reduce the risk of electrocution due to environmental circumstances (I.e. high degree of humidity like out-doors, in a swimming pool complex, etc.).

Standards

IEC 61558-1-2-6: Safety transformer
IEC 61558-1-2-8: Bell transformer

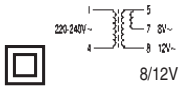
Performance

	Bell transformer	Safety transformer
Nominal primary voltage and frequency	230V 50Hz / 240V 60Hz	230V 50Hz / 240V 60Hz
Secondary voltage at nominal primary voltage	8 or 12V	12 or 24V
Maximum secondary voltage at zero load	1.5xUn sec.	1.05xUn sec.
Minimum secondary voltage at nominal load	0.85xUn sec.	1xUn sec.
Maximum load	Nominal power	Nominal power
Short-circuit protection	PTC(1)	PTC
Operating temperature	-20...+40°C	-20...+40°C
Isolation voltage	4kV	4kV
Protection degree	IP 20	IP 20
Screw	Pozidriv 1	Pozidriv 1
Terminal capacity: min	1x1mm^2	1x1mm^2
max	1x16mm^2 or 2x6mm^2	1x16mm^2 or 2x6mm^2

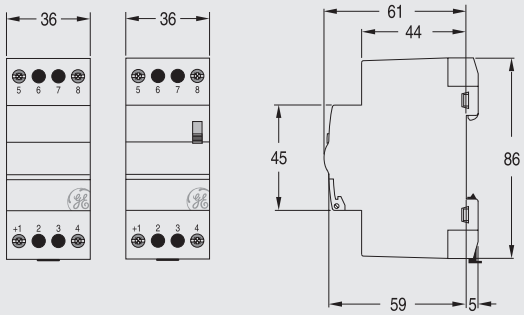
(1) Except 666999 - protection by construction

Transformers

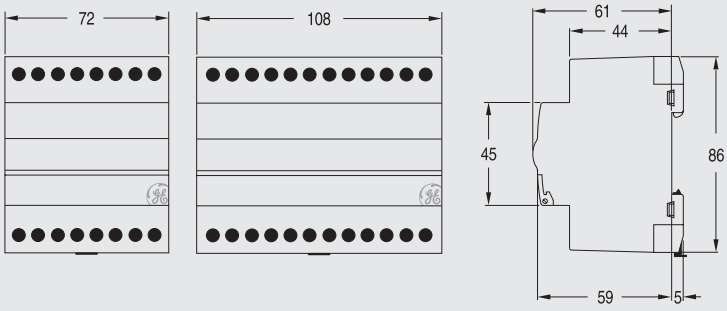
	Output power	Secondary voltage	Primary voltage	Number of modules	Cat. No.	Ref. No.	Pack.
Bell transformer	5VA	8/12V	220...240V	2	KTB5	**666995**	1
	15VA	8/12V	220...240V	2	KTB15	**666994**	1
	30VA	12/24V	220...240V	2	KTB30	**666999**	1
Safety transformer	25VA	12/24V	220...240V	4	KTS25	**666996**	1
	40VA	12/24V	220...240V	4	KTS40	**666997**	1
	63VA	12/24V	220...240V	6	KTS63	**666998**	1



Bell transformers



Safety transformers



Measurement instruments

Applications

Measurement of basic electrical values as voltage, current, frequency.
To avoid down-time due to abnormal situations, i.e. power-supply voltage too high, absorbed power too high, etc.,
leading to malfunctionning and even break-down of the machinery, the measurement and monitoring of the electrical values like voltage, current, frequency, etc. is an absolute must and even an indespensable asset when it comes to preventive maintenance.

Function

Measurement, visualisation and logging of voltage, current, frequency, hours of operation.

Standards

EN 61010-1, BS EN 60051-1-2

Features

- AC measurement devices with analogue technology and readout are available.
- The devices (one measurement only i.e. voltage, current, frequency) are only available in single phase.
- High currents can be measured through the intermediate use of a current transformer (for the analogue amp-meter combined with an interchangeable scale-plate).
- All devices have very good precision and have also a very low self-consumption to limit as much as possible the measurement error.
- Using one monophase-volt or amp-meter in a 3-phase system is possible by using the appropriate selector switch.

Performance

	Analogue instruments
Readout	*Polycarbonate + carbon needle*
Scale selection	Interchangeable scaleplate
Own consumption current meters	0.3VA
Own consumption other meters	1.5VA
Operating temperature range	-10 ... +55°C
Test voltage	2000V at 50Hz during 1 minute
Class of precision (accuracy)	1.5 (0.5 for frequency meter)
Overload current coils	
- 1 second	10xIn
- Continuous	2xIn
Overload voltage coils	
- 0.5 second	2xUn
- Continuous	1.2xUn
Vibration resistance	0.35 mm at 10/55Hz on 3 axes, duration of 6 hours
Shock resistance	50g
Protection degree	IP40
Screws	Pozidriv 1
Terminal capacity: min	1x1 mm^2
max	1x16 mm^2 or 2x6 mm^2

Analogue measurement instruments

	Scale	Accuracy	Number of phases	Number of modules	Cat. No.	Ref. No.	Pack.
 Volt meter	500V	1.5	1	3	MGAV500	**666890**	1
 Ammeter	–	1.5	1	3	MGAA	**666887**	1
	15A	1.5	1	3	MGAA15	**666885**	1
 Frequency meter	45...65Hz	0.5	1	3	MGAF	**666888**	1
 Hour counter	12V	–	1	2	MGABZL5	**666900**	1
	230V/50Hz	–	1	2	MGABZM5	**666889**	1

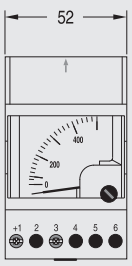
Accessories

Interchangeable Ammeter scaleplates for 666887

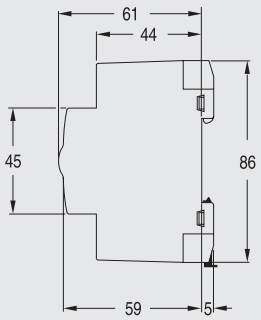
Scale	Cat. No.	Ref. No.	Pack.
40/5A	MT SP 40	666395	1
50/5A	MT SP 50	666397	1
60/5A	MT SP 60	666399	1
80/5A	MT SP 80	666401	1
100/5A	MT SP 100	666389	1
150/5A	MT SP 150	666391	1
200/5A	MT SP 200	666392	1
250/5A	MT SP 250	666393	1
300/5A	MT SP 300	666394	1
400/5A	MT SP 400	666396	1
500/5A	MT SP 500	666398	1
600/5A	MT SP 600	666400	1
800/5A	MT SP 800	666402	1
1000/5A	MT SP 1000	666390	1

Dimensions

Hour counter



Voltmeter
Ammeter
Frequency meter



Surge arresters

ASA BLOCK
ASA PLUG-IN
ASA PHOT
ASA TELE OV

Standards

Protection of an electrical installation and all electrical and electronic devices connected to this installation against destructive surges. Such voltage surges can be generated by lighting induced currents, by network polluting devices such a motors, frequency converters, dimmers, etc.., and by power supply networks switching operations.

Standards

NF C61-740
IEC 61643-I
IEC 61643-II
BS 6651
DIN VDE 0675-6

Marking

CE

Applications

ASA BLOCK, ASA PLUGIN and ASA PHOT surge arresters cover the protection of home appliances (TV, Hifi, VCR, laundry-machine, dishwasher...), commercial building equipment (computer, data networks, intrusion and alarm systems, access control and building automation systems), industrial equiment (PLC, instrumentation, medical apparatus, monitoring devices) and even the protection of entire off-shore drilling platforms.

Features

- AEG family of surge arresters includes a full range of compact protectors for installation on DIN rail.
- The range is specially designed to provide complete and effective protection against surges, protecting equipment and property connected to the low-voltage network.
- The range includes Class I/B 35 kA to 10 kA surge arresters in 10/350 ms wave form, and Class II/C surge arresters with different discharge capacities: 40 kA and 100 kA in wave form 8/20 ms. Class 2 SPD's for DC photovoltaic applications are also available.
- The most suitable value will be selected according to the type of installation, premises and equipments to be protected.
- Several different formats one-pole, single-phase, two-phase and three-phase available for all types of electrical net systems: TT, TN-S, TN-C, IT.
- Additionally, a complete line for temporary overvoltage (TOV) is included in this range. TOV is a voltage peak of hundreds of volts for an indeterminate period due to the unbalance of the network (normally caused by neutral fault).

Applications

Impulse current (Iimp)
This is the peak current that the SPD can withstand without failing. The waveform of the applied current is normalised as 10/350 µs. Used in Class 1 SPD.

Maximum discharge current (Imax)
This is the peak current it can withstand in a single pulse without failing. The waveform of the applied current is normalised as 8/20 µs. Used in Class 2 SPD.

Nominal discharge current (In)
This is the current that the device is capable of shunting to ground at least 20 times without failing.

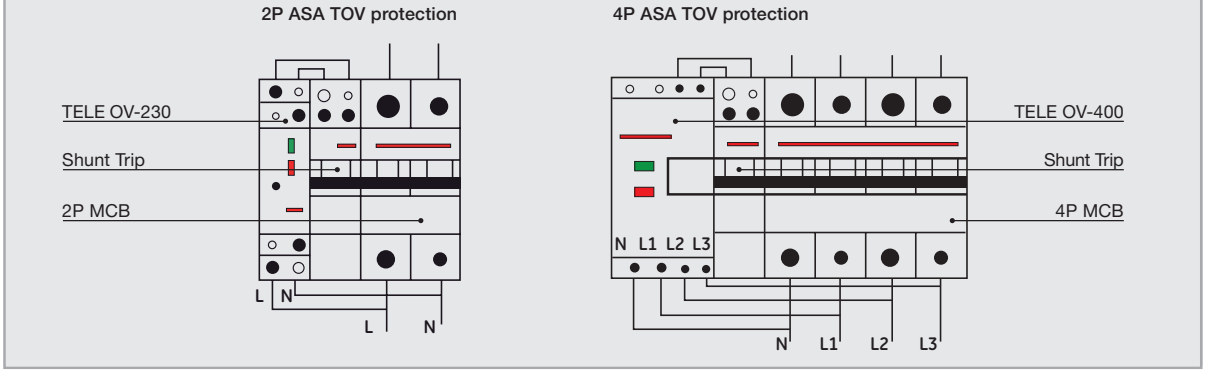
Level of protection (Up)
This is the parameter that characterises the action of the protection device against surges by limiting the voltage between its terminals. It must be less than the surge withstand capacity given by the category of the equipment to be protected. However, if the protector is far from the equipment to be protected it may be necessary to use additional protectors.

Maximum continuous operating voltage Umax (Uc)
This is the maximum AC or DC voltage which may be continuously applied to the terminals of the SPD.

Performance

	ASA BLOCK I	ASA BLOCK I&II	ASA PLUG-IN II single phase	ASA BLOCK II multi-phase
Energy impulse wave	10/350µs	10/350µs and 8/20µs	8/20µs	8/20µs
Response time	<100ns	<100ns	<25ns	<25ns
Thermal fuse	-	yes	yes	yes
Thermal fuse healty indication	-	Indicator flag window	Indicator flag window	Indicator flag window
Nominal voltage	230V or 400V	230V or 400V	230V or 400V	230V or 400V
Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Useable in network	TT, TN-S, TT, IT	TT, TN-S, TT, IT	TT, TN-S, TT, IT	TT, TN-S
Operating temperature	-40°C... +80°C	-40°C... +80°C	-40°C... +75°C	-40°C... +80°C
Screws	Pozidriv 3	Pozidriv 3	Pozidriv 3	Pozidriv 3
Terminal capacity: min	6mm^2	6mm^2	6mm^2	6mm^2
max (flexible/rigid)	35/50mm^2	25/35mm^2	25/50mm^2	25/35mm^2

Connection scheme Tele OV



SA BLOCK - SA PLUG-IN / Surge arresters

Class I/B

These surge arresters have the capacity to divert excess energy for low-voltage line protection.
Class I surge arresters should be installed in areas at high risk from direct lightning strike discharge.

Single phase

TT, TN-S, TN-C, IT

Iimp	In	Up	Up (L-N)	Up (N-EP)	Umax (Uc)	No. of poles	Aux. contact	No. of modules	Cat. No.	Ref. No.	Pack.
35kA	-	4000V	-	-	255V	1P	-	1	ASA BLOCK I 35	**667520**	1
100kA	-	4000V	-	-	255V	1P	-	1	ASA BLOCK I 100 N	**667521**	1
100kA	100kA	-	-	-	500V	1P	-	1	ASA BLOCK I PC	**667522**	1

Class I/B and II/C

The ASA BLOCK I&II can operate as a Class I and Class II protection in accordance with the IEC 61643-11, Class I/B and Class II/C integrated in only one device. Used in main panelboards (incomer of installations) with high risk from direct lightning strike discharge.
Not needed decoupling coils and class II downstream SA BLOCK I&II in the main panelboard.

Single phase

TT, TN-S, TN-C, IT

Iimp/Imax	In	Up	Up (L-N)	Up (N-EP)	Umax (Uc)	No. of poles	Aux. contact	No. of modules	Cat. No.	Ref. No.	Pack.
Class I/class II	Class II										
15kA / 100kA	30kA	1300V	-	-	275V	1P	-	2	ASA BLOCK I&II 100	**667523**	1
30kA / 100kA	65kA	1500V	-	-	275V	1P	-	2	ASA BLOCK I&II 100N	**667524**	1

Class II/C

The Class II protection is the most frequently used because they offer high protection and are compatible with most equipments.

Single phase plug-in (base+module)

TT, TN-S, TN-C, IT

Imax	In	Up	Up (L-N)	Up (N-EP)	Umax (Uc)	No. of poles	Aux. contact	No. of modules	Cat. No.	Ref. No.	Pack.
40kA	20kA	1300V	-	-	280V	1P	-	1	ASA PLUGIN II 40/230	**667531**	1
40kA	20kA	1300V	-	-	280V	1P	1CO	1	ASA PLUGIN II 40/230 C	**667529**	1
40kA	20kA	1900V	-	-	440V	1P	1CO	1	ASA PLUGIN II 40/400 C	**667530**	1
60kA	30kA	1500V	-	-	255V	1P	-	1	ASA PLUGIN II 60 NGND	**667532**	1

Multi-phase monobloc

TT, TN-S

Imax	In	Up	Up (L-N)	Up (N-EP)	Umax (Uc)	No. of poles	Aux. contact	No. of modules	Cat. No.	Ref. No.	Pack.
Common mode protection											
40kA	15kA	1300V	-	-	275V	2P	-	2	ASA BLOCK II 40/230 LLE	**667526**	1
Common mode protection											
40kA	15kA	1300V	-	-	440V	4P	-	4	ASA BLOCK II 40/400 4L/NE	**667527**	1
40kA	15kA	1300V	-	-	440V	4P	1CO	4	ASA BLOCK II 40/400 4L/NE C	**667528**	1

Special applications

Class II/C protection for (DC) Photovoltaic applications

Imax	In	Up	Up (L-N)	Up (N-EP)	Umax (Uc)	No. of poles	Aux. contact	No. of modules	Cat. No.	Ref. No.	Pack.
40kA	15kA	2600V	-	-	600Vdc	2P	-	2	ASA PHOT 600V	**667536**	1
40kA	15kA	3800V	-	-	1000Vdc	2P	-	2	ASA PHOT 1000V	**667537**	1

Accessories

Class II - Replacement modules for plug-in versions

TT, TN-S, TN-C, IT

Imax	In	Up	Up (L-N)	Up (N-EP)	Umax (Uc)	No. of poles	Aux. contact	No. of modules	Cat. No.	Ref. No.	Pack.
40kA	20kA	-	1200V	-	280V	1P	-	1	ASA MODULE 40/230	**667533**	1
40kA	20kA	-	1300V	-	440V	1P	-	1	ASA MODULE 40/400	**667534**	1
60kA	20kA	-	1500V	-	255V	1P	-	1	ASA MODULE 60 NGND	**667535**	1

To be used between class I/B and class II/C if these arresters are placed in the same panelboard. We can save it if we use ASA BLOCK I&II.

Decoupling coil

Imax	In	Up	Up (L-N)	Up (N-EP)	Umax (Uc)	No. of poles	Aux. contact	No. of modules	Cat. No.	Ref. No.	Pack.
-	35A	-	-	-	-	1P	-	2	ASA C35	**667525**	1

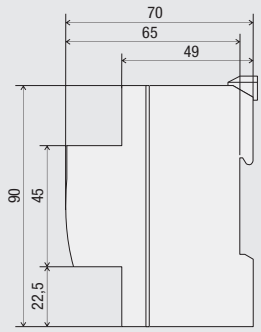
ASA TELE OV - Temporally Overvoltage (ATOV)

Protection against permanent overvoltage

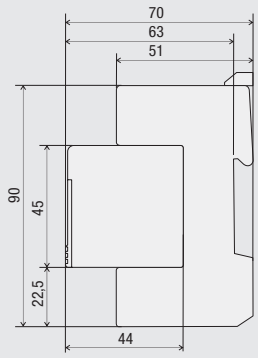
Imax	In	Up	Up (L-N)	Up (N-EP)	Umax (Uc)	No. of poles	Aux. contact	No. of modules	Cat. No.	Ref. No.	Pack.
-	mcb	254V	<4 sec.	<0.5 sec.	230V	2	-	1	ATELE OV 230	**667538**	1
-	mcb	254V	<4 sec.	<0.5 sec.	400V	4	-	2	ATELE OV 400	**667539**	1

Surge arresters

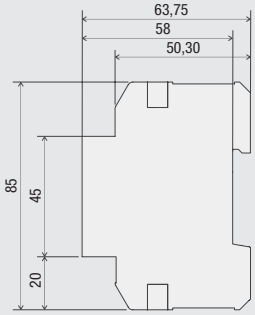
ASA BLOCK, ASA PHOT x 2 MODULES, ASA C



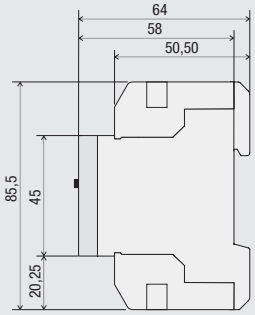
Plug-in types ASA C



ASA BLOCK II 15 LN



ASA TELE OV - Overvoltage protection



HabiTEQ™

Home and Building Automation

The growing recognition of the fact that buildings consume 40% of total energy used and are responsible for 36% of CO_2 emissions in the European Union, places ever increasing emphasis on improving energy efficiency in buildings.

Development of innovative technologies offers new possibilities to upgrade electrical installations – the heart of every building. This area holds great potential for designing properties with greater flexibility, energy saving and additional comfort without compromising lifestyle.

HabiTEQ™ hybrid automation system combines wired and wireless control technologies to enable energy efficiency improvements: optimize the regulation of energy used by heating, lighting, ventilation, and building electrical infrastructure and further increases energy awareness through consumption reporting.

- Energy management
- Flexibility and comfort
- Installation simplified

Shaping the future with HabiTEQ™ wireless

Advancement in wireless technology has transformed communications ranging from indispensible devices like mobile phone and Wifi PC networks to highly reliable aircraft communication and navigation systems impacting everyday life.

Emerging standards and advances in wireless technology have made it possible to deploy wireless solutions in building automation networks.

Wireless sensing gives you economical control and optimum comfort in areas that are frequently re-configured, or where hardwiring is challenging or simply not possible.

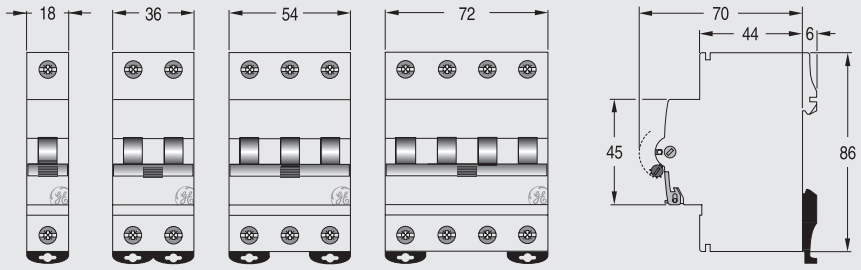
The wireless technology is ideal for minimizing the impact on existing building installations and decorative surfaces, or for controlling large, open spaces or structures with brick or concrete walls.

Wireless technology offers unlimited flexibility for new installations.

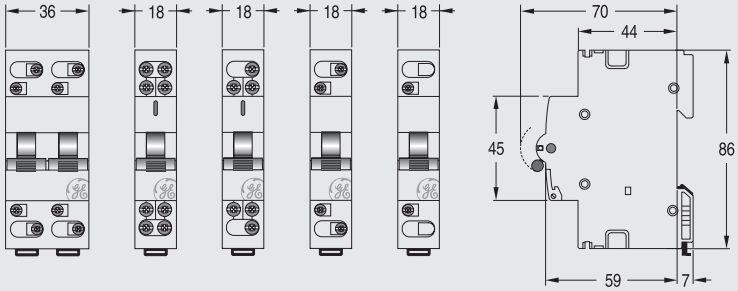
For more information, please contact us.

Dimensions

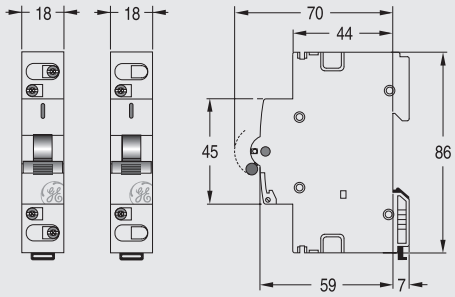
Mains disconnect switches



Switches



Switches with signal lamp



Push-buttons