



## Impulse switches

### Pulsar S

#### Standards / Marking

IEC 60669-1, IEC 60669-2-2



#### 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 PLS series SA & SB.
- The switch position is visualised by the position of the front handle for all devices, except PLS series SA & SB.
- 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, add-on central-command module and a spacer are available.
- 3 & 4 poles devices are multi voltage (except all-in central command).
- The use of a large number of luminous push-buttons is possible.
- Availability of sealing cap for coil and load terminals.

For the table Impulse switches maximum lamp loads, see page D.10

More technical data ● website  
Dimensions ● pg D.44

New



Performance

		PLS +				PLS + C <sup>(4)</sup>	
		PLS + 16	PLS + 32	PLS + SA & SB	PLS + PU 16	PLS + C 16	PLS + C 32
<b>Rated current (acc. to IEC 669-2-3)</b>							
250VAC (1 & 2 pole) / 400VAC (3 & 4 pole)	A	16	32	16	16	16	32
Direct Current (at 30 VDC)	A	16	16	16	16	16	16
Number of poles		1 → 4	1 → 4	2	1 → 4	1 → 3	1 → 3
<b>Contacts</b>	NO	1 → 4	1 → 4	2	1 → 4	1 → 3	1 → 3
	Changeover ("m")	1 → 4	-	-	1 → 4	1 → 3	-
	NO + NC	1+1 / 2+2	-	-	1+1 / 2+2	-	-
<b>Width (in 17.8mm DIN modules)</b>							
1 P	Mod.	1	1	-	1	1	1
2 P	Mod.	1	1	1	1	1½	1½
3 P	Mod.	2	2	-	2	2	2
4 P	Mod.	2	2	-	2	-	-
<b>Coil specifications</b>							
Supply voltage : DC/AC ratio <sup>(1)</sup>		0.5 / 1	0.5 / 1	0.5 / 1	0.5 / 1	0.5 / 1	0.5 / 1
Supply voltage range (in % of Un)	%	90-110	90-110	90-110	90-110	90-110	90-110
Coil pick-up power (AC)	1P & 2P	VA	14.5	16.0	14.5	4.8	14.5
	3P & 4P	VA	14.5	16.0	-	8.0	16.0
Coil power loss - AC	1P & 2P	VA	11.0	11.5	11.0	3.2	11.0
	3P & 4P	VA	11.0	11.5	-	6.0	11.0
Coil power loss - DC	1P & 2P	W	7.5	8.0	7.5	2.9	12.5
	3P & 4P	W	7.5	8.0	-	5.4	14.5
Maximum coil holding voltage time		<sup>(2)</sup>	<sup>(2)</sup>	<sup>(2)</sup>	unlimited	<sup>(2)</sup>	<sup>(2)</sup>
<b>Impulse times</b>							
Minimum impulse time (under Un)	sec.	0.050	0.050	0.050	0.050	0.100	0.100
Minimum impulse time (90% Un)	sec.	0.100	0.100	0.100	0.100	0.100	0.100
Minimum time between impulses	sec.	0.150	0.150	0.150	0.150	0.150	0.150
Maximum number of impulses per mn		250	250	250	250	250	250
<b>Lifetime (in number of operations)<sup>(3)</sup></b>							
Electrical (in AC-1 - At full load) <sup>(4)</sup>		4 × 10 <sup>5</sup>	3 × 10 <sup>5</sup>	3 × 10 <sup>5</sup>	2 × 10 <sup>5</sup>	4 × 10 <sup>5</sup>	3 × 10 <sup>5</sup>
Mechanical		2 × 10 <sup>6</sup>	2 × 10 <sup>6</sup>	2 × 10 <sup>6</sup>	1 × 10 <sup>6</sup>	2 × 10 <sup>6</sup>	2 × 10 <sup>6</sup>
<b>Load specifications</b>							
Maximum load AC-1 per phase	A	20	32	20	20	20	32
Maximum load DC (30VDC)	A	16	16	16	16	16	16
Minimum load per phase (under 5V)	W	2	2	2	2	2	2
Short-circuit fuse protection	A	20	32	20	20	20	32
<b>Maximum lamp load (10<sup>3</sup> operations/h)</b>							
Incandescence & halogen (40 to 200 W lamps)	W	3,000	4,000	3,000	3,000	3,000	4,000
Fluorescence, compensated (cos φ = 0.9)	Serial compensation	VA	3,000	4,000	3,000	3,000	4,000
	Parallel compensation	VA	2,500	3,200	2,500	2,500	3,200
Fluorescence, non compensated (cos φ = 0.5)	VA	1,800	2,200	1,800	1,800	1,800	2,200
<b>Maximum number of push-buttons</b>							
Non illuminated push-buttons		unlimited	unlimited	unlimited	unlimited	unlimited	unlimited
Luminous push-buttons (0.6mA)		unlimited	unlimited	unlimited	unlimited	unlimited	unlimited
4 terminals		unlimited	unlimited	unlimited	unlimited	unlimited	unlimited
3 terminals	Without compensator	8	8	8	6	8	8
	1 compensator	18	18	18	15	27	27
	2 compensators	45	45	45	38	43	43
<b>General specifications</b>							
Power contact add-on		yes	yes	no	no	no	no
Auxiliary contact add-on (PLS / CTX R)		yes	yes	no	yes	yes	yes
Need for spacer <sup>(2)</sup>		yes	yes	yes	no	yes	yes
DIN rail mounting		yes	yes	yes	yes	yes	yes
2-position DIN rail lock		yes	yes	yes	yes	yes	yes
2-position handle		yes	yes	no	yes	yes	yes
Indicator of contact position		yes	yes	yes	yes	yes	yes
Clamping terminals		yes	yes	yes	yes	yes	yes
Unlosable screws		yes	yes	yes	yes	yes	yes
Sealable terminals (coil and load)		yes	yes	yes	yes	yes	yes
Cable cross section (Ø min/max)	Coil	mm <sup>2</sup>	1.5 / 10	1.5 / 10	1.5 / 10	1.5 / 10	1.5 / 10
	Load 1P-3P & 4P	mm <sup>2</sup>	1.5 / 10	1.5 / 10	1.5 / 10	1.5 / 10	1.5 / 10
	Load 2P	mm <sup>2</sup>	1.5 / 10	1.5 / 10	1.5 / 10	1.5 / 6	1.5 / 10
Maximum torque on terminals	Nm	1	1	1	1	1	1
Ambient temperature at installation point (min./max.)	°C	-20 / +45	-20 / +45	-20 / +45	-20 / +45	-20 / +45	-20 / +45

(1) For all impulse relays, DC supply voltage = AC supply voltage x DC/AC ratio, except for 8 VAC and 115VAC (48 VDC)

(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 (not required for PLS PU)

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

(4) For any central command installation, a PLS SG module per phase must be installed in order to protect the coils against overvoltages



New

Pulsar S - Impulse switches

Comfort functions

A

B

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D

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		Nominal current	Contact combination	Coil voltage AC	Coil voltage DC	No. of Modules	Cat. No.	Ref. No.	Pack.		
	<b>Impulse switches</b>	16A	1NO	8	-	1	PLS + 16 10 008 A	686078	12		
		16A	1NO	12	6	1	PLS + 16 10 012 A	686079	12		
		16A	1NO	24	12	1	PLS + 16 10 024 A	686080	12		
		16A	1NO	48	24	1	PLS + 16 10 048 A	686081	12		
		16A	1NO	115	48	1	PLS + 16 10 115 A	686082	12		
		16A	1NO	230	115	1	PLS + 16 10 230 A	686083	12		
		16A	1NO	230/60Hz	-	1	PLS + 16 10 23060	686284	12		
		16A	1NO	240	120	1	PLS + 16 10 240 A	686084	12		
		16A	1CO	8	-	1	PLS + 16 1 008 A	686071	12		
		16A	1CO	12	6	1	PLS + 16 1 012 A	686072	12		
		16A	1CO	24	12	1	PLS + 16 1 024 A	686073	12		
		16A	1CO	48	24	1	PLS + 16 1 048 A	686074	12		
		16A	1CO	115	48	1	PLS + 16 1 115 A	686075	12		
		16A	1CO	230	115	1	PLS + 16 1 230 A	686076	12		
		16A	1CO	240	120	1	PLS + 16 1 240 A	686077	12		
				16A	2NO	8	-	1	PLS + 16 20 008 A	686102	12
				16A	2NO	12	6	1	PLS + 16 20 012 A	686103	12
				16A	2NO	24	12	1	PLS + 16 20 024 A	686104	12
16A	2NO			48	24	1	PLS + 16 20 048 A	686105	12		
16A	2NO			115	48	1	PLS + 16 20 115 A	686106	12		
16A	2NO			230	115	1	PLS + 16 20 230 A	686108	12		
16A	2NO			230/60Hz	-	1	PLS + 16 20 23060	686107	12		
16A	2NO			240	120	1	PLS + 16 20 240 A	686109	12		
16A	1NO 1NC			8	-	1	PLS + 16 11 008 A	686086	12		
16A	1NO 1NC			12	6	1	PLS + 16 11 012 A	686087	12		
16A	1NO 1NC			24	12	1	PLS + 16 11 024 A	686088	12		
16A	1NO 1NC			48	24	1	PLS + 16 11 048 A	686089	12		
16A	1NO 1NC			115	48	1	PLS + 16 11 115 A	686090	12		
16A	1NO 1NC			230	115	1	PLS + 16 11 230 A	686091	12		
16A	1NO 1NC			230/60Hz	-	1	PLS + 16 11 23060	686285	12		
16A	1NO 1NC			240	120	1	PLS + 16 11 240 A	686092	12		
				16A	2 CO	8	-	1	PLS + 16 2 008 A	686093	12
				16A	2 CO	12	6	1	PLS + 16 2 012 A	686094	12
		16A	2 CO	24	12	1	PLS + 16 2 024 A	686095	12		
		16A	2 CO	48	24	1	PLS + 16 2 048 A	686096	12		
		16A	2 CO	115	48	1	PLS + 16 2 115 A	686097	12		
		16A	2 CO	230	115	1	PLS + 16 2 230 A	686098	12		
		16A	2 CO	240	120	1	PLS + 16 2 240 A	686099	12		
				32A	1NO	8	-	1	PLS + 32 10 008 A	686110	12
				32A	1NO	12	6	1	PLS + 32 10 012 A	686111	12
				32A	1NO	24	12	1	PLS + 32 10 024 A	686112	12
				32A	1NO	48	24	1	PLS + 32 10 048 A	686113	12
				32A	1NO	115	48	1	PLS + 32 10 115 A	686114	12
				32A	1NO	230	115	1	PLS + 32 10 230 A	686115	12
				32A	1NO	240	120	1	PLS + 32 10 240 A	686116	12
				32A	2NO	8	-	1	PLS + 32 20 008 A	686118	12
				32A	2NO	12	6	1	PLS + 32 20 012 A	686119	12
				32A	2NO	24	12	1	PLS + 32 20 024 A	686120	12
				32A	2NO	48	24	1	PLS + 32 20 048 A	686121	12
32A	2NO			115	48	1	PLS + 32 20 115 A	686122	12		
32A	2NO			230	115	1	PLS + 32 20 230 A	686123	12		
32A	2NO			240	120	1	PLS + 32 20 240 A	686124	12		
	<b>Add-on power contact</b>			16A	2NO	-	-	1	PLS + 16 20	686100	10
				16A	1NO 1NC	-	-	1	PLS + 16 11	686085	10
				16A	2CO	-	-	1	PLS + 16 2	686101	10
				32A	2NO	-	-	1	PLS + 32 20	686117	10
	<b>Step by step multi circuit</b>	16A	2NO	12	6	1	PLS + SA 16 20 012 A	686182	12		
		16A	2NO	24	12	1	PLS + SA 16 20 024 A	686183	12		
		16A	2NO	48	24	1	PLS + SA 16 20 048 A	686184	12		
		16A	2NO	230	115	1	PLS + SA 16 20 230 A	686185	12		
		16A	2NO	240	120	1	PLS + SA 16 20 240 A	686186	12		
		16A	2NO	12	6	1	PLS + SB 16 20 012 A	686187	12		
		16A	2NO	24	12	1	PLS + SB 16 20 024 A	686188	12		
		16A	2NO	48	24	1	PLS + SB 16 20 048 A	686189	12		
		16A	2NO	230	115	1	PLS + SB 16 20 230 A	686190	12		
		16A	2NO	240	120	1	PLS + SB 16 20 240 A	686191	12		
			<b>All-in central command</b>	16A	1NO	8	-	1	PLS + C 16 10 008 A	686132	12
				16A	1NO	12	6	1	PLS + C 16 10 012 A	686133	12
				16A	1NO	24	12	1	PLS + C 16 10 024 A	686134	12
				16A	1NO	48	24	1	PLS + C 16 10 048 A	686135	12
				16A	1NO	230	115	1	PLS + C 16 10 230 A	686136	12
				16A	1NO	240	120	1	PLS + C 16 10 240 A	686137	12

32A other version available on request.  
Terminal identification, see page D.40

New



**Pulsar S - Impulse switches**

	Nominal current	Contact combination	Coil voltage AC	Coil voltage DC	No. of Modules	Cat. No.	Ref. No.	Pack.
	<b>All-in central command (continued)</b>							
	16A	1CO	8	-	1	PLS + C 16 1 008 A	<b>686126</b>	12
	16A	1CO	12	6	1	PLS + C 16 1 012 A	<b>686127</b>	12
	16A	1CO	24	12	1	PLS + C 16 1 024 A	<b>686128</b>	12
	16A	1CO	48	24	1	PLS + C 16 1 048 A	<b>686129</b>	12
	16A	1CO	230	115	1	PLS + C 16 1 230 A	<b>686130</b>	12
16A	1CO	240	120	1	PLS + C 16 1 240 A	<b>686131</b>	12	
	16A	2NO	8	-	1.5	PLS + C 16 2 008 A	<b>686144</b>	8
	16A	2NO	12	6	1.5	PLS + C 16 2 012 A	<b>686145</b>	8
	16A	2NO	24	12	1.5	PLS + C 16 2 024 A	<b>686146</b>	8
	16A	2NO	48	24	1.5	PLS + C 16 2 048 A	<b>686147</b>	8
	16A	2NO	230	115	1.5	PLS + C 16 2 230 A	<b>686148</b>	8
	16A	2NO	240	120	1.5	PLS + C 16 2 240 A	<b>686149</b>	8
	16A	2CO	8	-	1.5	PLS + C 16 2 008 A	<b>686138</b>	8
	16A	2CO	12	6	1.5	PLS + C 16 2 012 A	<b>686139</b>	8
	16A	2CO	24	12	1.5	PLS + C 16 2 024 A	<b>686140</b>	8
	16A	2CO	48	24	1.5	PLS + C 16 2 048 A	<b>686141</b>	8
	16A	2CO	230	115	1.5	PLS + C 16 2 230 A	<b>686142</b>	8
	16A	2CO	240	120	1.5	PLS + C 16 2 240 A	<b>686143</b>	8
	16A	3CO	8	-	2	PLS + C 16 3 008 A	<b>686150</b>	6
	16A	3CO	12	6	2	PLS + C 16 3 012 A	<b>686151</b>	6
	16A	3CO	24	12	2	PLS + C 16 3 024 A	<b>686152</b>	6
	16A	3CO	48	24	2	PLS + C 16 3 048 A	<b>686153</b>	6
	16A	3CO	230	115	2	PLS + C 16 3 230 A	<b>686154</b>	6
	16A	3CO	240	120	2	PLS + C 16 3 240 A	<b>686155</b>	6
	32A	1NO	8	-	1	PLS + C 32 10 008 A	<b>686156</b>	12
	32A	1NO	12	6	1	PLS + C 32 10 012 A	<b>686157</b>	12
	32A	1NO	24	12	1	PLS + C 32 10 024 A	<b>686158</b>	12
	32A	1NO	48	24	1	PLS + C 32 10 048 A	<b>686159</b>	12
	32A	1NO	230	115	1	PLS + C 32 10 230 A	<b>686160</b>	12
	32A	1NO	240	120	1	PLS + C 32 10 240 A	<b>686161</b>	12
	32A	2NO	8	-	1.5	PLS + C 32 20 008 A	<b>686162</b>	8
	32A	2NO	12	6	1.5	PLS + C 32 20 012 A	<b>686163</b>	8
	32A	2NO	24	12	1.5	PLS + C 32 20 024 A	<b>686164</b>	8
	32A	2NO	48	24	1.5	PLS + C 32 20 048 A	<b>686165</b>	8
	32A	2NO	230	115	1.5	PLS + C 32 20 230 A	<b>686166</b>	8
	32A	2NO	240	120	1.5	PLS + C 32 20 240 A	<b>686167</b>	8
	32A	3NO	8	-	2	PLS + C 32 30 008 A	<b>686168</b>	6
	32A	3NO	12	6	2	PLS + C 32 30 012 A	<b>686169</b>	6
	32A	3NO	24	12	2	PLS + C 32 30 024 A	<b>686170</b>	6
	32A	3NO	48	24	2	PLS + C 32 30 048 A	<b>686171</b>	6
	32A	3NO	230	115	2	PLS + C 32 30 230 A	<b>686172</b>	6
	32A	3NO	240	120	2	PLS + C 32 30 240 A	<b>686173</b>	6
	<b>Permanent use</b>							
	16A	2NO	24	12	1	PLS + PU 16 20 024 A	<b>686178</b>	12
	16A	2NO	230	115	1	PLS + PU 16 20 230 A	<b>686179</b>	12
	16A	2CO	24	12	1	PLS + PU 16 2 024 A	<b>686176</b>	12
	16A	2CO	230	115	1	PLS + PU 16 2 230 A	<b>686177</b>	12
	16A	4NO	24	12	2	PLS + PU 16 40 024 A	<b>686180</b>	6
16A	4NO	230	115	2	PLS + PU 16 40 230 A	<b>686181</b>	6	
	<b>Add-on auxiliary contact</b>							
	5A	1NO 1NC	-	-	0.5	CTX + R 5 11	<b>686067</b>	16
	5A	2NO	-	-	0.5	CTX + R 5 20	<b>686068</b>	16
5A	2NC	-	-	0.5	CTX + R 5 02	<b>686066</b>	16	
	<b>Add-on central control</b>							
	-	-	-	-	0.5	PLS + C	<b>686125</b>	16
	<b>Multilevel central command module</b>							
	-	-	-	-	1	PLS + M	<b>686175</b>	12
	<b>SurgeGuard safety module</b>							
	-	-	230/240	-	1	PLS + SG	<b>686192</b>	12
<b>Capacity module</b>								
-	-	230/240	-	1	PLS + CAP	<b>686174</b>	12	
<b>Spacer</b>								
-	-	-	-	0.5	PLS + / CTX + SP	<b>686069</b>	50	
<b>Sealing cap</b>								
-	-	-	-	1	PLS + / CTX + TS 1	<b>686070</b>	50	

Terminal identification, see page D.40

Pulsar S

A

B

C

D

E

F

G

X

**New**





## Staircase switches

### Pulsar TS

#### 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 preset time has elapsed.

Energy saving: the PLTS + TD is especially developed to switch off during the preset time when the staircase switch receives a new impulse.

#### Applications



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

#### Features


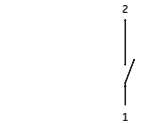


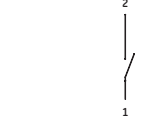
- Designed for a real 3.500W switching capacity.
- User adjustable time.
- Electromechanical contact and electronic timer with manual override off or on possible at all time for PLTS + M.
- 3 or 4 wire wiring possible.
- Device for pre-extinction warning adjustable from 20 to 40 sec only for incandescence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

#### Standards

EN 60669-2-3



### Pulsar TS - Staircase switches

	Nominal current	Contact combination	Coil voltage AC	Coil voltage DC	Number of Modules	Cat. No.	Ref. No.	Pack.
 <p>Staircase switch</p> 	16	1NO	230	-	1	PLTS + M	686216	12
 <p>Dimmer for staircase switch</p>	16	3500W	230	-	1	PLTS + D	686214	12
To be used only in combination with the staircase switch. Wiring diagram on page D.17								
 <p>Time-delay impulse relay</p> 	16	1NO	230	-	1	PLTS + TD	666311	12

Terminal identification, see page D.41

More technical data ● website

Dimensions ● pg D.45

New

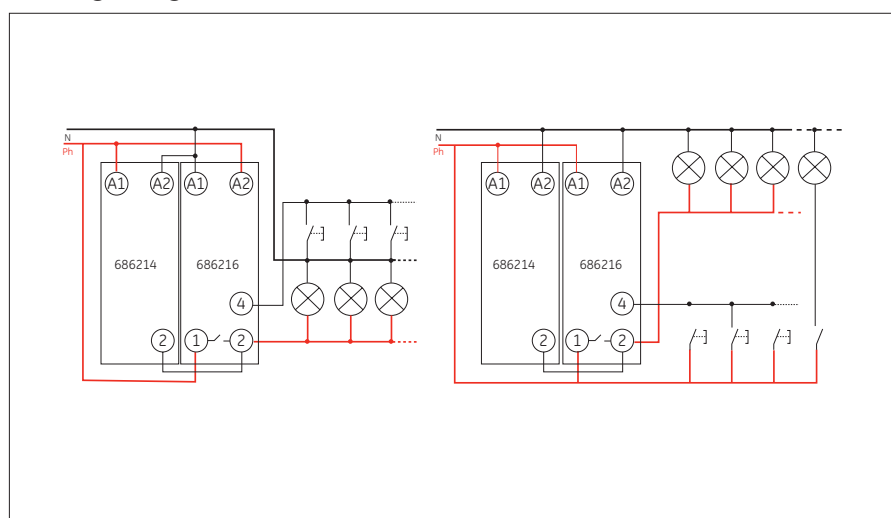


## Performance

		PLTS + TD	PLTS + M	PLTS + D
<b>Rated current (acc. IEC 609-2-3)</b>	A	16	16	16
<b>Width</b> (in number of DIN-modules)		1	1	1
<b>Contacts</b>	NO	1	1	1
<b>Time range</b>	1 function	1mn / 20mn	30s / 15mn	20s / 40s
<b>Supply voltage</b>	230V - 50/60 Hz	yes	yes	yes
	24VAC/24VDC	on request	on request	on request
Supply voltage range (in % of Un)	%	90-110	90-110	90-110
<b>Rated power consumption</b>				
Closed circuit current	230V	4.0	4.0	4.0
Working current (ignition & running)	230V	4.0	4.0	4.0
<b>Light types</b>				
Incandescent lamps		yes	yes	yes
Fluorescent lamps		yes	yes	no
<b>Switching capacity</b>				
AC-5b Incandescent lamps (40 to 200 W lamps)	W	3,500	3,500	3,500
Fluorescence compensated (cos $\Phi = 0.9$ )				
	Serial compensation	W	3,500	n/a
	Parallel compensation	VA	2,500	n/a
<b>Lifetime</b> (in number of operations) <sup>(1)</sup>				
Electrical (AC-1)	at 1,200 W	$2 \times 10^6$	$2 \times 10^6$	$2 \times 10^6$
	at full load	$1 \times 10^6$	$3 \times 10^5$	$3 \times 10^5$
Mechanical		$1 \times 10^7$	$1 \times 10^7$	$1 \times 10^7$
<b>Max. number of push-buttons</b>				
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 (2 $\mu$ F) <sup>(2)</sup>	45	300	300
	2 compensators (2 x 2 $\mu$ F)	59	600	600
<b>General specifications</b>				
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
Resistant 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, unloosable screws		yes	yes	yes
Cable cross section ( $\emptyset$ min./max)	Coil	mm <sup>2</sup>	1.5 / 10	1.5 / 10
	Load	mm <sup>2</sup>	1.5 / 10	1.5 / 10
Maximum torque on terminals		N x m	1	1
Ambient temperature at installation point (min./max.)		°C	-20 / +45	-20 / +45

(1) cycle = 2 operations per pole (closing + opening)  
 (2) See page D.15: code 686174

## Wiring diagram



Pulsar TS

A

B

C

D

E

F

G

X



New

Dimensional drawings

Comfort functions

A

B

C

D

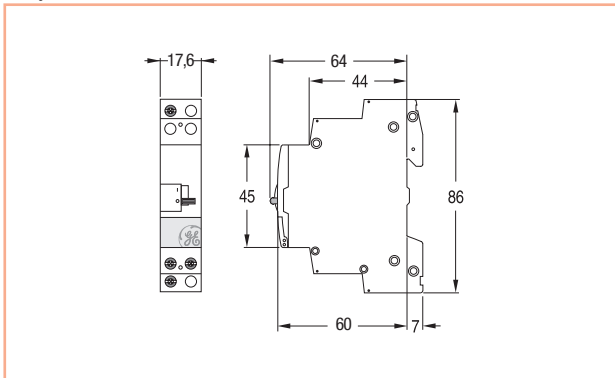
E

F

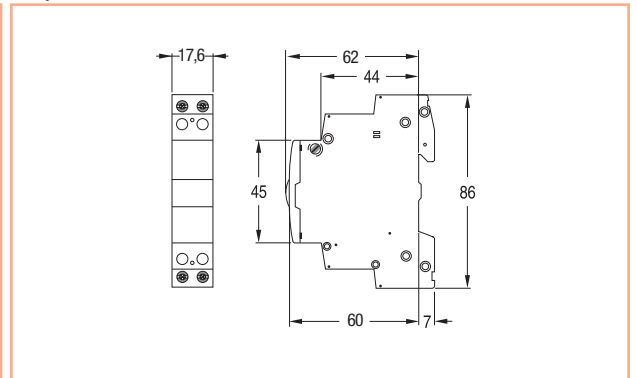
G

X

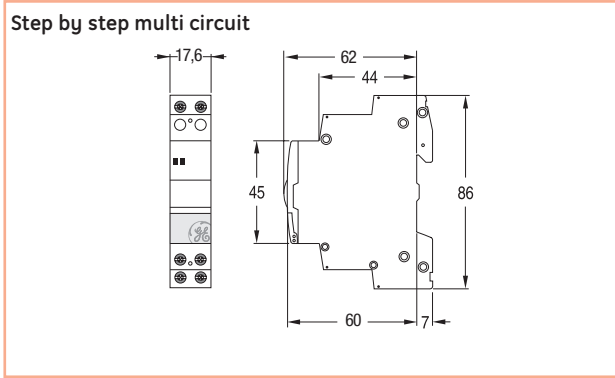
Impulse switches - Pulsar S



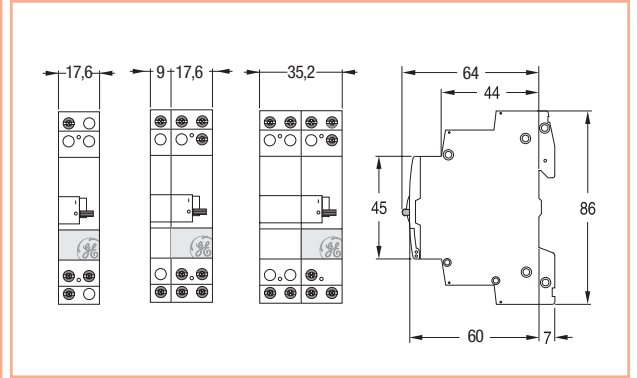
Impulse switches - Pulsar S



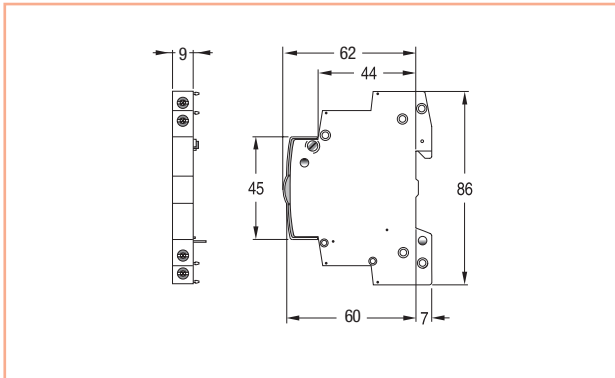
Impulse switches - Pulsar S



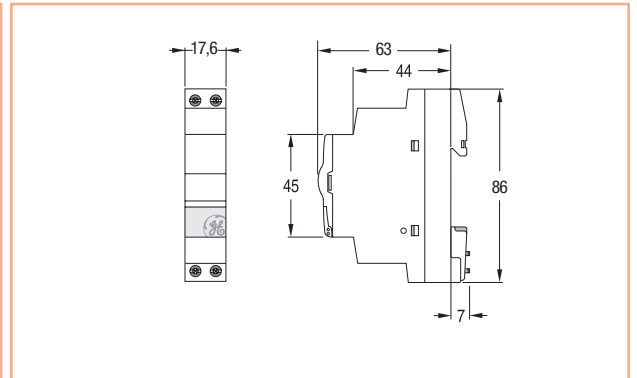
All-in central command - Pulsar S



Add-on auxiliary contact - Pulsar S

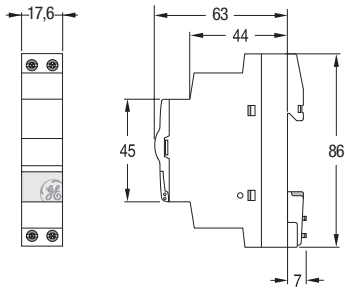


Capacity module - Pulsar S

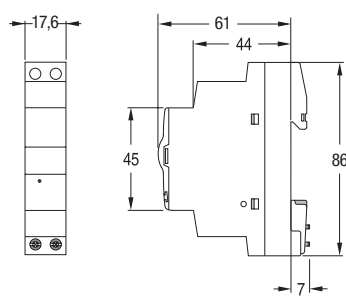


**Central command - Pulsar S**

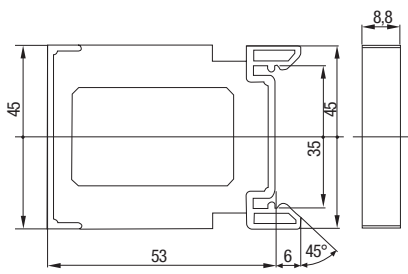
Multilevel central control module



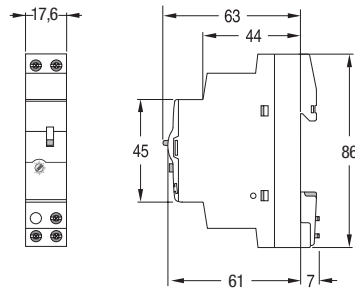
SurgeGuard safety module



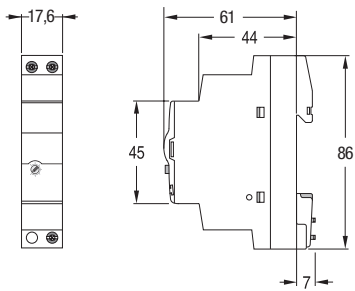
**Spacer - Pulsar S**



**Staircase switches - Pulsar TS**



**Dimmer - Pulsar TS**



**Time-delay impulse relay - Pulsar TS**

