



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

Performance

				PLS +			PLS + C ⁽⁴⁾	
				PLS + 16	PLS + 32	PLS + SA & SB PLS + PU 16	PLS + C 16	PLS + C 32
Rated current (acc. to IEC 669-2-3)								
250VAC (1 & 2 pole) / 400VAC (3 & 4 pole)	A			16	32	16	16	32
Direct Current (at 30 VDC)	A			16	16	16	16	16
Number of poles				1 → 4	1 → 4	2	1 → 4	1 → 3
Contacts	NO			1 → 4	1 → 4	2	1 → 4	1 → 3
	Changeover ("m")			1 → 4	-	-	1 → 4	1 → 3
	NO + NC			1+1 / 2+2	-	-	1+1 / 2+2	-
Width (in 17.8mm DIN modules)								
	1 P	Mod.		1	1	-	1	1
	2 P	Mod.		1	1	1	1½	1½
	3 P	Mod.		2	2	-	2	2
	4 P	Mod.		2	2	-	2	-
Coil specifications								
Supply voltage : DC/AC ratio ⁽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
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				⁽²⁾	⁽²⁾	⁽²⁾	unlimited	⁽²⁾
Impulse times								
Minimum impulse time (under Un)	sec.			0.050	0.050	0.050	0.050	0.100
Minimum impulse time (90% Un)	sec.			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
Maximum number of impulses per mn				250	250	250	250	250
Lifetime (in number of operations)⁽³⁾								
Electrical (in AC-1 - At full load) ⁽⁴⁾				4 × 10 ⁵	3 × 10 ⁵	3 × 10 ⁵	2 × 10 ⁵	4 × 10 ⁵
Mechanical				2 × 10 ⁶	2 × 10 ⁶	2 × 10 ⁶	1 × 10 ⁶	2 × 10 ⁶
Load specifications								
Maximum load AC-1 per phase	A			20	32	20	20	32
Maximum load DC (30VDC)	A			16	16	16	16	16
Minimum load per phase (under 5V)	W			2	2	2	2	2
Short-circuit fuse protection	A			20	32	20	20	32
Maximum lamp load (10³ operations/h)								
Incandescence & halogen (40 to 200 W lamps)	W			3,000	4,000	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	2,200
Maximum number of push-buttons								
Non illuminated push-buttons				unlimited	unlimited	unlimited	unlimited	unlimited
Luminous push-buttons (0.6mA)								
4 terminals				unlimited	unlimited	unlimited	unlimited	unlimited
3 terminals	Without compensator			8	8	8	6	8
	1 compensator			18	18	18	15	27
	2 compensators			45	45	45	38	43
General specifications								
Power contact add-on				yes	yes	no	no	no
Auxiliary contact add-on (PLS / CTX R)				yes	yes	no	yes	yes
Need for spacer ⁽²⁾				yes	yes	yes	no	yes
DIN rail mounting				yes	yes	yes	yes	yes
2-position DIN rail lock				yes	yes	yes	yes	yes
2-position handle				yes	yes	no	yes	yes
Indicator of contact position				yes	yes	yes	yes	yes
Clamping terminals				yes	yes	yes	yes	yes
Unlosable screws				yes	yes	yes	yes	yes
Sealable terminals (coil and load)				yes	yes	yes	yes	yes
Cable cross section (Ø min/max)	Coil	mm ²		1.5 / 10	1.5 / 10	1.5 / 10	1.5 / 10	1.5 / 10
	Load 1P-3P & 4P	mm ²		1.5 / 10	1.5 / 10	1.5 / 10	1.5 / 10	1.5 / 10
	Load 2P	mm ²		1.5 / 10	1.5 / 10	1.5 / 10	1.5 / 10	1.5 / 6
Maximum torque on terminals	Nm			1	1	1	1	1
Ambient temperature at installation point (min./max.)	°C			-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

Pulsar S - Impulse switches

Comfort functions

A

B

C

D

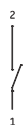
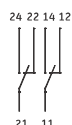
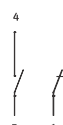
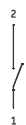
E

F

G

X

Impulse switches



Add-on power contact



Step by step multi circuit

SA= 0-A-0-B-0
SB=0-A-AB-B-0

All-in central command

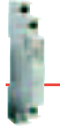


Nominal current	Contact combination	Coil voltage AC	Coil voltage DC	No. of Modules	Cat. No.	Ref. No.	Pack.
16A	1NO	8	-	1	PLS + 16 10 008 A	686078	12
16A	1NO	12	6	1	PLS + 16 10 012 A	686079	12
16A	1NO	24	12	1	PLS + 16 10 024 A	686080	12
16A	1NO	48	24	1	PLS + 16 10 048 A	686081	12
16A	1NO	115	48	1	PLS + 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
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
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
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.
All-in central command (continued)       	16A	1CO	8	-	1	PLS + C 16 1 008 A	686126	12
	16A	1CO	12	6	1	PLS + C 16 1 012 A	686127	12
	16A	1CO	24	12	1	PLS + C 16 1 024 A	686128	12
	16A	1CO	48	24	1	PLS + C 16 1 048 A	686129	12
	16A	1CO	230	115	1	PLS + C 16 1 230 A	686130	12
	16A	1CO	240	120	1	PLS + C 16 1 240 A	686131	12
	16A	2NO	8	-	1.5	PLS + C 16 20 008 A	686144	8
	16A	2NO	12	6	1.5	PLS + C 16 20 012 A	686145	8
	16A	2NO	24	12	1.5	PLS + C 16 20 024 A	686146	8
	16A	2NO	48	24	1.5	PLS + C 16 20 048 A	686147	8
	16A	2NO	230	115	1.5	PLS + C 16 20 230 A	686148	8
	16A	2NO	240	120	1.5	PLS + C 16 20 240 A	686149	8
	16A	2CO	8	-	1.5	PLS + C 16 2 008 A	686138	8
	16A	2CO	12	6	1.5	PLS + C 16 2 012 A	686139	8
	16A	2CO	24	12	1.5	PLS + C 16 2 024 A	686140	8
	16A	2CO	48	24	1.5	PLS + C 16 2 048 A	686141	8
	16A	2CO	230	115	1.5	PLS + C 16 2 230 A	686142	8
	16A	2CO	240	120	1.5	PLS + C 16 2 240 A	686143	8
   	16A	3CO	8	-	2	PLS + C 16 3 008 A	686150	6
	16A	3CO	12	6	2	PLS + C 16 3 012 A	686151	6
	16A	3CO	24	12	2	PLS + C 16 3 024 A	686152	6
	16A	3CO	48	24	2	PLS + C 16 3 048 A	686153	6
	16A	3CO	230	115	2	PLS + C 16 3 230 A	686154	6
	16A	3CO	240	120	2	PLS + C 16 3 240 A	686155	6
	32A	1NO	8	-	1	PLS + C 32 10 008 A	686156	12
	32A	1NO	12	6	1	PLS + C 32 10 012 A	686157	12
	32A	1NO	24	12	1	PLS + C 32 10 024 A	686158	12
	32A	1NO	48	24	1	PLS + C 32 10 048 A	686159	12
	32A	1NO	230	115	1	PLS + C 32 10 230 A	686160	12
	32A	1NO	240	120	1	PLS + C 32 10 240 A	686161	12
	32A	2NO	8	-	1.5	PLS + C 32 20 008 A	686162	8
	32A	2NO	12	6	1.5	PLS + C 32 20 012 A	686163	8
	32A	2NO	24	12	1.5	PLS + C 32 20 024 A	686164	8
	32A	2NO	48	24	1.5	PLS + C 32 20 048 A	686165	8
	32A	2NO	230	115	1.5	PLS + C 32 20 230 A	686166	8
	32A	2NO	240	120	1.5	PLS + C 32 20 240 A	686167	8
	32A	3NO	8	-	2	PLS + C 32 30 008 A	686168	6
	32A	3NO	12	6	2	PLS + C 32 30 012 A	686169	6
	32A	3NO	24	12	2	PLS + C 32 30 024 A	686170	6
	32A	3NO	48	24	2	PLS + C 32 30 048 A	686171	6
	32A	3NO	230	115	2	PLS + C 32 30 230 A	686172	6
	32A	3NO	240	120	2	PLS + C 32 30 240 A	686173	6
Permanent use   	16A	2NO	24	12	1	PLS + PU 16 20 024 A	686178	12
	16A	2NO	230	115	1	PLS + PU 16 20 230 A	686179	12
	16A	2CO	24	12	1	PLS + PU 16 2 024 A	686176	12
	16A	2CO	230	115	1	PLS + PU 16 2 230 A	686177	12
	16A	4NO	24	12	2	PLS + PU 16 40 024 A	686180	6
	16A	4NO	230	115	2	PLS + PU 16 40 230 A	686181	6
Add-on auxiliary contact 	5A	1NO 1NC	-	-	0.5	CTX + R 5 11	686067	16
	5A	2NO	-	-	0.5	CTX + R 5 20	686068	16
	5A	2NC	-	-	0.5	CTX + R 5 02	686066	16
Add-on central control 	-	-	-	-	0.5	PLS + C	686125	16
Multilevel central command module 	-	-	-	-	1	PLS + M	686175	12
SurgeGuard safety module 	-	-	230/240	-	1	PLS + SG	686192	12
Capacity module 	-	-	230/240	-	1	PLS + CAP	686174	12
Spacer 	-	-	-	-	0.5	PLS + / CTX + SP	686069	50
Sealing cap 	-	-	-	-	1	PLS + / CTX + TS 1	686070	50

Terminal identification, see page D.40

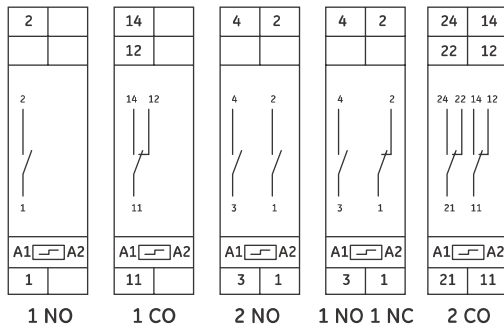


New

Terminal capacity

Impulse switches - Pulsar S

Impulse switches



1 NO

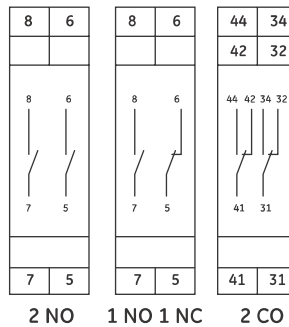
1 CO

2 NO

1 NO 1 NC

2 CO

Add-on power contact



2 NO

1 NO 1 NC

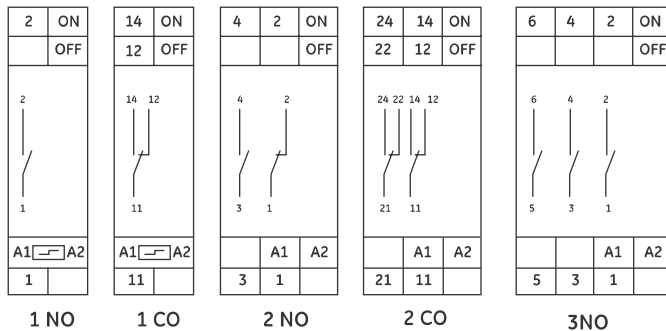
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Step by step multi circuit



2 NO

All-in central command



1 NO

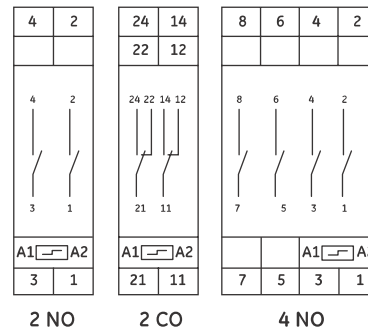
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2 NO

2 CO

3 NO

Permanent use

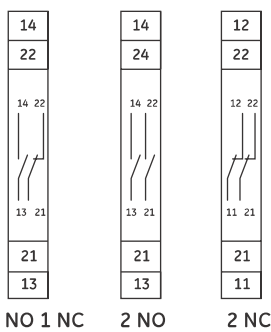


2 NO

2 CO

4 NO

Add-on auxiliary contact



1 NO 1 NC

2 NO

2 NC