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)					
250V AC (1 & 2 pole) / 400V AC (3 & 4 pole)		A	16	16	16
Direct Current (at 30V DC)		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 (30V DC)		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

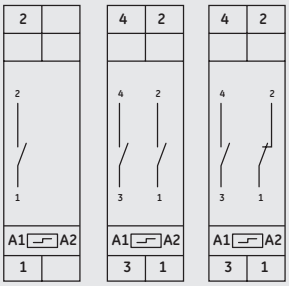
(1) For all impulse relays, DC supply voltage = AC supply voltage x DC/AC ratio, except for 8V AC

(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)

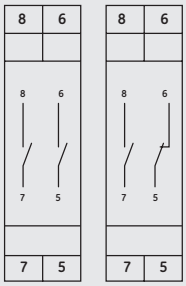
Terminal capacity - Impulse switches

Impulse switches



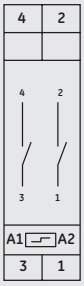
1 NO 2 NO 1 NO 1 NC

Add-on power contact



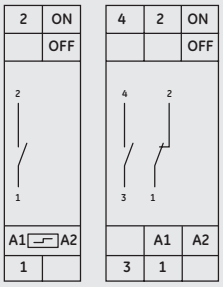
2 NO 1 NO 1 NC

Step by step multi circuit



2 NO

All-in central command

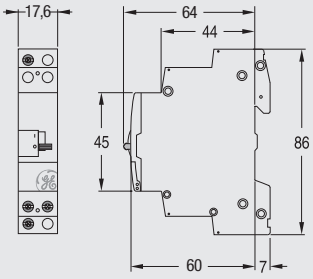


1 NO 2 NO

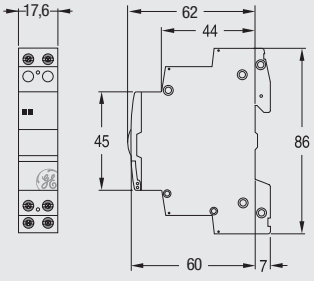
Add-on auxiliary contact

1 NO 1 NC

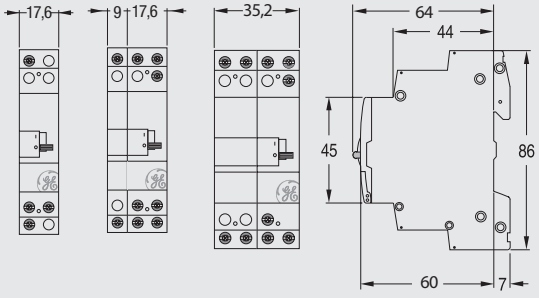
Impulse switches



Step by step multi circuit



All-in central command



Add-on auxiliary contact