

## PFFA / PFFB DFFA / DFFB



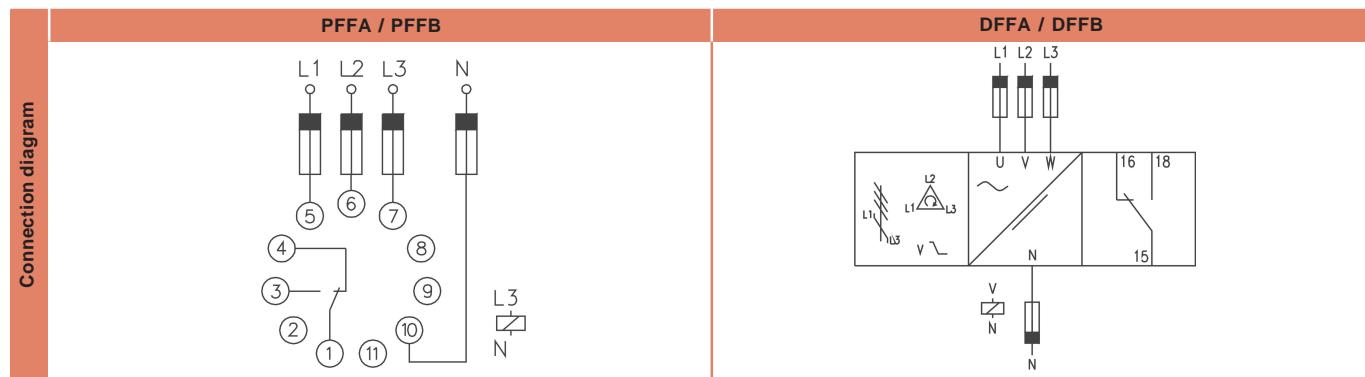
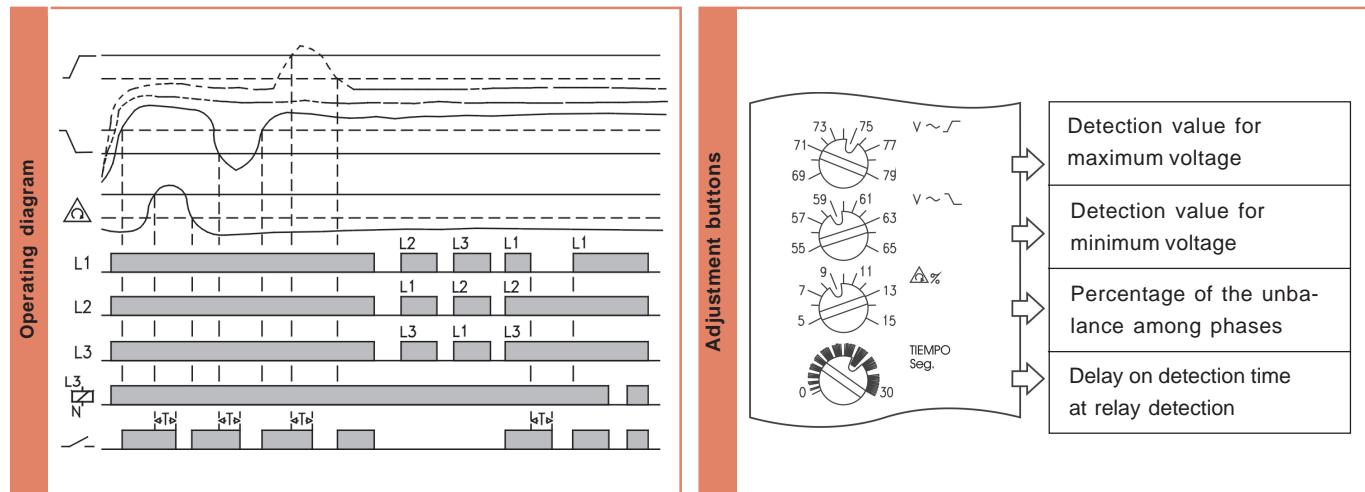
### PHASE RELAY



Difference	Control of phase sequence, voltage threshold, unbalance and rotation angle. Three-phase lines without neutral.
Connection	The three-phase line is connected to terminals 5, 6 ,7 and 10 (PFFA/B) or L1, L2, L3 and N (DFFA/B) in the order indicated in the connection diagram.
Operating principle	While there is no anomaly the relay remains operated, and it releases for any of the following causes: . If the phase voltage is not correct. . If one or more phases are not present. . If the voltage in whichever of the phases does not stay between the adjusted margins. . If rotation angle does not stay between the adjusted margins.
Leds indication	Power on: Green Relay on: Red
Delay on connection	No
Delay on detection	Adjustable from 0 to 30 Sec.

Reference	HOUSING	FUNCTION	OUTPUT	VOLTAGE	RANGES
P	Plg-inn	FF	Phase relay	A SPDT B DPDT	110 3 x 110 VAC + N 220 3 x 220 VAC + N 400 3 x 400 VAC + N 440 3 x 440 VAC + N 500 3 x 500 VAC + N
D	DIN rail				50 50 Hz 60 60 Hz

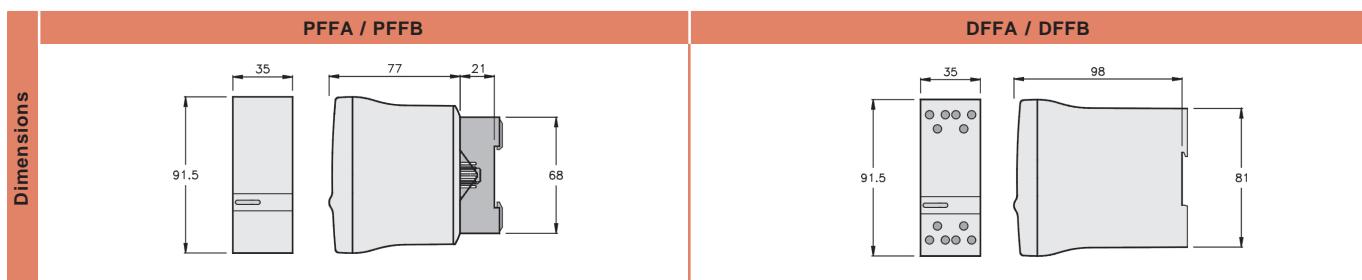
To compose the reference, select one option of each column. Example: **PFFA 110 50**



	PFFA	PFFB	DFFA	DFFB
Output relays				
Resistive load	AC 10 A / 250 V 0,4 A / 200 V 10 A / 24 V	AC 8 A / 250 V 0,25 A / 200 V 8 A / 24 V	AC 10 A / 250 V 0,4 A / 200 V 10 A / 24 V	AC 8 A / 250 V 0,25 A / 200 V 8 A / 24 V
Inductive load	AC 5 A / 250 V 5 A / 24 V	AC 2,5 A / 250 V 4 A / 24 V	AC 5 A / 250 V 5 A / 24 V	AC 2,5 A / 250 V 4 A / 24 V
Mechanical life	> 30 x 10 <sup>6</sup> operations			> 30 x 10 <sup>6</sup> operations
Max. switching rate, mech.	72.000 operations / hour			72.000 operations / hour
Electrical life at full load	360 operations / hour			360 operations / hour
Contact material	AgNi 90/10			AgNi 90/10
Maximum voltage	440 VAC			440 VAC
Operating voltage	250 VAC			250 VAC
Volt. between changeovers	2500 VAC			2500 VAC
Voltage between contacts	1000 VAC			1000 VAC
Voltage coil/contact	5000 VAC			5000 VAC
Distance coil/contact	10 mm			10 mm
Isolation resistance	> 10 <sup>4</sup> MΩ			> 10 <sup>4</sup> MΩ

Supply	AC	DFFA/PFFB
	PFFA/PFFB	
Galvanic isolation	Yes	
Frequency	50 / 60 Hz	
Operating margins	±10% -15%	
Positive	-	
Protected polarity	-	

Constructive and environmental data	PFFA / PFFB	DFFA / DFFB
	Voltage phase-neutral	300 V
	Oversupply category	III
	Rated impulse voltage	4 kV
	Pollution degree	2
	Protection	IP 20 B
	Approximate weight	250 g
	Storage temperature	-50°C +85°C
	Operating temperature	-20°C +50°C
	Humidity	30~85% HR
	Housing	Cyclooy - Light grey
	Socket	Lexan - Light grey
	Visor leds	Lexan - Transparent
	Button, terminal block, clip	Technyl - Dark blue
Pins of the socket	Nickel brass	
Pins of the terminal block	-	Brass
Approvals	Designed and manufactured under EEC standards. Electromagnetic compatibility, directives 89/366/EEC and 92/31/EEC. Electric safety, directive 73/23/EEC. Plastics: UL 91 V0	



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