

# Accessories for Protective Devices

## Accessories for RCDs, MCBs, Combined RCD/MCB Devices, Motor Starters and Power Limiters

- Auxiliary Switch
- RCD-Tripping Module
- Shunt Trip Release
- Undervoltage Release
- Remote Control and Automatic Switching Device
- Switching Interlocks

xPole

SG60811



SG00712



SG30811



# Accessories for Protective Devices

		<b>Auxiliary Switch Z-HK, Z-AHK, Z-HD; Tripping Signal Switch Z-NHK</b>			
		Design: for screwing			
		For Protective Device / Function	Type Designation	Article No.	Units per package
 <p>SG60911</p> <p>Z-AHK</p>		PFIM, PFHM-4p, dRCM 1NO+1NC	Z-HK	248432	4 / 120
		PLS., PKD., PFHM-2p 1NO+1NC	Z-AHK	248433	4 / 120
		PLS., PKD., PFIM, PFHM dRCM	2CO Z-NHK	248434	4 / 120
		PFDM	1CO+1NC Z-HD	265620	1
		<b>Auxiliary Switch ZP-AHK, ZP-IHK, ZP-WHK; Tripping Signal Switch ZP-NHK</b>			
		Design: for snapping			
		For Protective Device / Function	Type Designation	Article No.	Units per package
 <p>SG60811</p> <p>ZP-IHK</p>		PLS., PKN. 1NO+1NC	ZP-AHK <span style="background-color: #e0e0e0;">Phase out type</span>	248436	4 / 120
		PLS., PKN. 1NO+1NC	ZP-IHK	286052	4 / 120
		PLS., PKN. 1CO	ZP-WHK	286053	4 / 120
		PLS., PKN. 2CO	ZP-NHK	248437	4 / 120
		<b>RCD-Tripping Module Z-.AM</b>			
		For Protective Device	Type Designation	Article No.	Units per package
 <p>SG16011</p> <p>Z-FAM</p>	 <p>SG16211</p> <p>Z-KAM</p>	PFIM, PFHM-4p, dRCM	Z-FAM	248293	1 / 60
		PKNM, PKDM, PFHM-2p	Z-KAM	248294	1 / 60
		<b>Shunt Trip Release Z-ASA, ZP-ASA</b>			
		Operational voltage range (V~)	Type Designation	Article No.	Units per package
 <p>SG00712</p> <p>Z-ASA</p>	 <p>SG00212</p> <p>ZP-ASA</p>	<b>to be glued on</b>			
		12-110	Z-ASA/24	248286	1 / 60
		110-415	Z-ASA/230	248287	1 / 60
		<b>to be snapped on</b>			
		12-110	ZP-ASA/24	248438	1 / 60
		110-415	ZP-ASA/230	248439	1 / 60
		<b>Undervoltage Release Z-USA, Z-USD</b>			
		Op. voltage range (V~)/Function	Type Designation	Article No.	Units per package
 <p>SG78811</p>	<b>to be screwed on</b>				
	115	undelayed	Z-USA/115	248288	1 / 60
	230	undelayed	Z-USA/230	248289	1 / 60
	400	undelayed	Z-USA/400	248290	1 / 60
	115	delayed 0.4s	Z-USD/115	248292	1 / 60
	230	delayed 0.4s	Z-USD/230	248291	1 / 60

# Accessories for Protective Devices

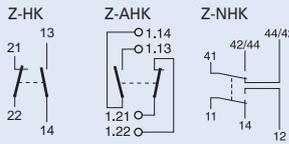
		<b>Remote Control and Automatic Switching Device Z-FW</b>			
		Function	Type Designation	Article No.	Units per package
SG30811		Automatic restarting 230VAC	Z-FW-LP	248296	1 / 20
		Automatic restarting 24-48VDC	Z-FW-LPD	265244	1 / 20
		+ Remote control ON/OFF/TEST (only in connection with Z-FW-LP, -LPD from delivery date 2006!)	Z-FW-MO	284730	1
<b>Pre-mounted sets Z-FW</b>					
• Set consisting of automatic switching device Z-FW-LP and switching module Z-FW-MO					
SG31311		230 VAC	Z-FW-LP/MO	290171	1 / 12
		24-48 VDC	Z-FW-LPD/MO	290172	1 / 12
<b>Remote Testing Module Z-FW (for Z-FW-LP/MO set use only)</b>					
SG12111		0,01 A	Z-FW/001	248297	4 / 120
		0,03 A	Z-FW/003	248298	4 / 120
		0,1 A	Z-FW/010	248299	4 / 120
		0,3 A	Z-FW/030	248300	4 / 120
		0,5 A	Z-FW/050	248301	4 / 120
<b>Switching interlocks IS/SPE-1TE, Z-IS/SPE-1TE</b>					
		Description	Type Designation	Article No.	Units per package
SG47812		Switching interlock without lock for Isolators, RCDs, combined RCD/MCBs, ...	IS/SPE-1TE	101911	5 / 30
		Switching interlock without lock for MCBs and Circuit Breaker ZP-A	Z-IS/SPE-1TE	274418	5 / 30

# Accessories for Protective Devices

## Auxiliary Switch Z-HK, Z-AHK; Tripping Signal Switch Z-NHK

- Design according to IEC/EN 60947-5-1, IEC/EN 62019
- Can be mounted subsequently (screws)
- The specified minimum voltages are per contact  
Take into account particularly in case of series connection!
- **Z-AHK, Z-NHK:** Contact function with relative movement (self-cleaning contacts)
- Contact material and design particularly suitable for extra low voltage
- **Z-NHK:** The function of one of the two change-over contacts can be switched from "auxiliary switch" to "tripping signal switch"
- Tripping signal contact transmits message of electric tripping, not mechanical switch-off
- Test key for contact function "electrical tripping"

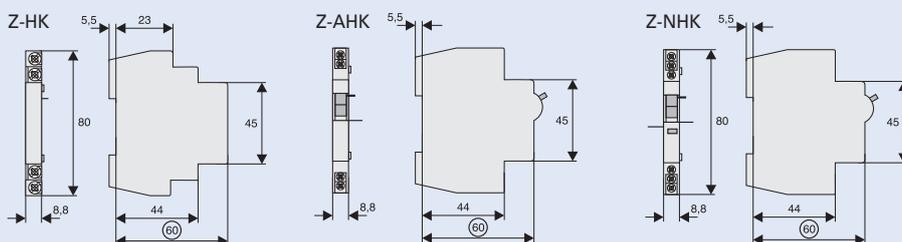
### Connection diagrams



### Technical Data

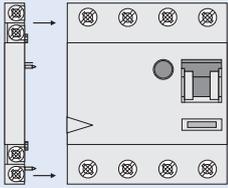
	Z-HK	Z-AHK	Z-NHK
<b>Electrical</b>			
Can be mounted from the left onto	PFIM, PFR, dRCM CFI6, PFHM-4p	CLS, L71, PFHM-2p CKN, PKDM	CLS, L71, CKN, PKDM
Can be mounted from the right onto	–	–	PFIM, PFR, CFI6, PFHM, dRCM
Contact function	1NO + 1NC	1NO + 1NC	2CO
Rated voltage	250 V	250 V	250 V
Frequency	50/60 Hz	50/60 Hz	50/60 Hz
Rated current	8 A	4 A	4 A
Rated thermal current $I_{th}$	8 A	4 A	4 A
Utilisation category AC13			
Rated operational current $I_e$	6A/250V AC 2A/440V AC	3A/250V AC –	3A/250V AC –
Utilisation category AC15			
Rated operational current $I_e$	–	2A/250V AC	2A/250V AC
Utilisation category DC12			
Rated operational current $I_e$	–	0.5A/110V DC	0.5A/110V DC
Utilisation category DC13			
Rated operational current $I_e$	0.5A/230V DC 2A/110V DC 4A/60V DC	– – –	– – –
Rated insulation voltage $U_i$	250 V AC	250 V AC	250 V AC
Minimum operational voltage per contact $U_{min}$	24 V AC/DC	5 V DC	5 V DC
Minimum operational current $I_{min}$	50 mA AC/DC	10 mA DC	10 mA DC
Rated peak withstand voltage $U_{imp}$ (1.2/50 $\mu$ )	2.5 kV	2.5 kV	2.5 kV
Conditional short circuit current $I_k$ with back-up fuse 6A or PLSM-B4-HS	–	1 kA	1 kA
Max. back-up fuse, overload and short circuit	8 A gL / CLS6-4/.. /B-HS	6 A gL / CLS6-4/.. /B-HS	6 A gL / CLS6-4/.. /B-HS
<b>Mechanical</b>			
Tripping indicator "electrical tripping"	–	–	blue/white
Frame size	45 mm	45 mm	45 mm
Device height	80 mm	80 mm	80 mm
Device width	8.8 mm (0.5MU)	8.8 mm (0.5MU)	8.8 mm (0.5MU)
Mounting	onto switching dev.	onto switching dev.	onto switching dev.
Degree of protection, built-in	IP40	IP40	IP40
Terminal protection	finger and hand touch safe according to BGV A3, ÖVE-EN 6		
Terminals	lift terminals	lift terminals	lift terminals
Terminal capacity	0.5-2.5 mm <sup>2</sup>	0.5-2.5 mm <sup>2</sup>	0.5-2.5 mm <sup>2</sup>
Terminal screws	M3 (Pozidrive Z0)	M3 (Pozidrive Z0)	M3 (Pozidrive Z0)
Fastening torque of terminal screws	max. 0.8-1.0 Nm	max. 0.8-1.0 Nm	max. 0.8-1.0 Nm

### Dimensions (mm)



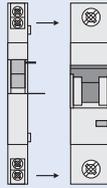
# Accessories for Protective Devices

## Example: Z-HK+PFIM



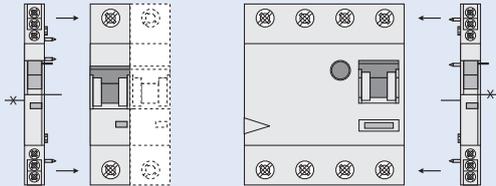
1NO+1NC 24V 50mA min.

## Example: Z-AHK+CLS6



1NO+1NC 5V 10mA min.

## Example: Z-NHK+CLS6 PFIM+Z-NHK



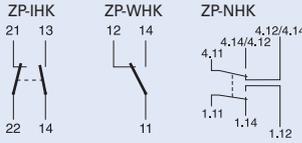
2CO 5V 10mA min.

# Accessories for Protective Devices

## Auxiliary Switch ZP-IHK, ZP-WHK; Tripping Signal Switch ZP-NHK

- Design according to IEC/EN 62019
- No screws required. Can be **snapped onto** PLS and PKNM subsequently
- **ZP-IHK, ZP-WHK:** can be snapped on additionally 1 time onto itself
- The specified minimum voltages are per contact. Take into account particularly in case of series connection!
- Contact material and design particularly suitable for extra low voltage. Contact function with relative movement (self-cleaning contacts)e)
- **ZP-NHK:** The function of one of the two change-over contacts can be switched from "auxiliary switch" to "tripping signal switch"
- Tripping signal contact transmits message of electric tripping, not mechanical switch-off
- Test key for contact function "electrical tripping"

### Connection diagrams

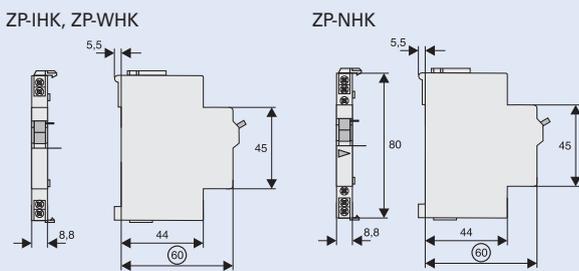


- **ZP-NHK:** The "Service button" is used to check whether or not the auxiliary switch is correctly wired in the tripping-signal-switch position. Activating the "service button" will mechanically simulate an electrical switch-off, so the mechanism for the electrical switch-off will disengage and can be checked. The main switchgear (MCB, combined MCB/RCD or RCD ...) connected to the ZP-NHK auxiliary switch does not need to trip as well during an inspection through the service button.

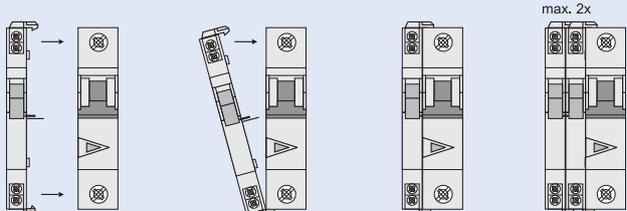
### Technical Data

	ZP-IHK	ZP-WHK	ZP-NHK
<b>Electrical</b>			
Can be mounted from the left onto	MCB: RCD/MCB: Accessories:	PLS, PLZ PKNM ZP-A40, ZP-ASA, Z-MS 1xZP-IHK, 1xZP-WHK	PLS, PLZ PKNM ZP-A40, ZP-ASA, Z-MS 1xZP-IHK, 1xZP-WHK
Contact function		1NO + 1NC	2CO
Rated voltage		250 V	250 V
Frequency		50/60 Hz	50/60 Hz
Rated current		6 A	4 A
Rated thermal current $I_{th}$		6 A	4 A
Utilisation category AC13			
Rated operational current $I_e$		3A/250V AC	3A/250V AC
Utilisation category AC15			
Rated operational current $I_e$		2A/250V AC	2A/250V AC
Utilisation category DC12			
Rated operational current $I_e$		0.5A/110V DC	0.5A/110V DC
Rated insulation voltage $U_i$		250 V AC	250 V AC
Minimum operational voltage per contact $U_{min}$		5 V DC	5 V DC
Minimum operational current $I_{min}$		10 mA DC	10 mA DC
Rated peak withstand voltage $U_{imp}$ (1.2/50 $\mu$ )		2.5 kV	2.5 kV
Conditional short circuit current $I_k$ with back-up fuse 6A or PLSM-B4-HS		1 kA	1 kA
Max. back-up fuse, overload and short circuit		6 A gL / PLSM-B4-HS	6 A gL / PLSM-B4-HS
<b>Mechanical</b>			
Tripping indicator "electrical tripping"			blue/white
Frame size		45 mm	45 mm
Device height		80 mm	80 mm
Device width		8.8 mm (0.5MU)	8.8 mm (0.5MU)
Degree of protection, built-in		IP40	IP40
Terminal protection		finger and hand touch safe according to BGV A3, ÖVE-EN 6	
Terminals		lift terminals	lift terminals
Terminal capacity		0.5-2.5 mm <sup>2</sup>	0.5-2.5 mm <sup>2</sup>
Terminal screws		M4 (Pozidrive Z2)	M3 (Pozidrive Z0)
Fastening torque of terminal screws		max. 1.2 Nm	max. 0.8-1.0 Nm

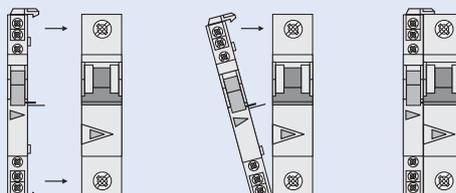
### Dimensions (mm)



### Example: ZP-IHK (ZP-WHK) + PLS



### Example: ZP-NHK + PLS

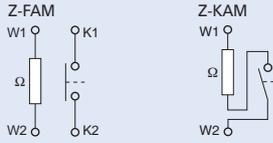


# Accessories for Protective Devices

## RCD Tripping Module Z-FAM (PFIM, PFHM-4p), Z-KAM (PKNM, PKDM, PFHM-2p)

- For remote switch-off of RCDs, standard and electronic combined RCD/MCB devices
- Remote switch-off by one or several parallel potential-free contacts, e.g. pushbutton max. rated current 3 A at 250 V, take into account maximum pushbutton voltage
- Remote tripping test by means of remote testing module Z-FW
- Can be mounted subsequently, to be wired according to connection diagram with the respective terminals of the RCD
- Tripping module for PFIM 0.5A upon enquiry
- No undesired voltage rise in the consumer system during remote switch-off thanks to integrated breaker contact K1-K2

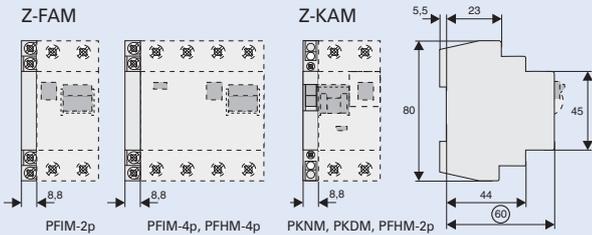
### Connection diagram



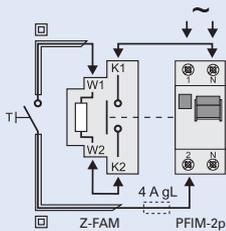
### Technical Data

	Z-FAM	Z-KAM
<b>Electrical</b>		
Tripping module for	PFIM, PFHM-4p, dRCM	PKNM, PKDM, PFHM-2p
Rated voltage	230(400) V AC	230(400) V AC
Frequency	50-60 Hz	50-60 Hz
Rated tripping current $I_{\Delta n}$	0.01 - 0.3 A	0.01 - 0.3 A
Function	1NO	1NO
<b>Mechanical</b>		
Frame size	45 mm	45 mm
Device height	80 mm	80 mm
Device width	8.8 mm (0.5MU)	8.8 mm (0.5MU)
Degree of protection, built-in	IP40	IP40
Terminal capacity	1 - 2x2.5 mm <sup>2</sup>	1 - 2x2.5 mm <sup>2</sup>
Terminal protection	finger and hand touch safe, according to BGV A3, ÖVE-EN 6	

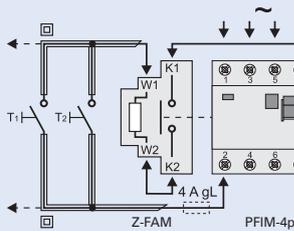
### Dimensions (mm)



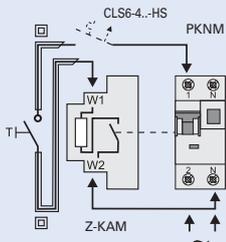
### Connection examples Lay lines to the switching devices with double insulation **and** overload protection, e.g. 4A gL or CLS6-4...-HS



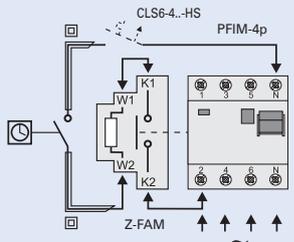
Connection diagram:  
PFIM-2p, RCD feed above



Connection diagram:  
PFIM-4p, RCD feed above



Connection diagram:  
PKNM, RCBO feed below



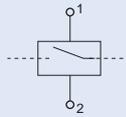
Connection diagram:  
PFIM-4p, RCD feed below

# Accessories for Protective Devices

## Shunt Trip Release Z-ASA, ZP-ASA

- Remote release for subsequent mounting onto PLS, CLS6, PKN, PKDM, Z-A40, Z-MS
- Module width 1MU
- Additional installation of standard auxiliary switch is possible
- Position indicator red - green
- Type ZP-ASA for snap-on mounting

Connection diagram

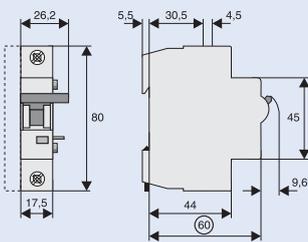


### Technical Data

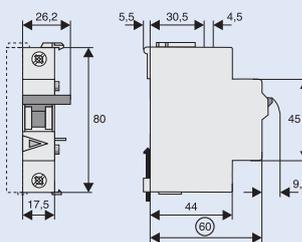
	Z-ASA24	Z-ASA230	ZP-ASA24	ZP-ASA230
<b>Electrical</b>				
Can be mounted onto RCDs, combined RCD/MCBs: Accessories:	CKN, PKDM	CKN, PKDM	PLS, PKN, CLS ZP-A40, Z-MS, Z-TS	PLS, PKN, CLS ZP-A40, Z-MS, Z-TS
Operational voltage range	12-110V AC 12-60V DC	110-415V AC 110-220V DC	12-110V AC 12-60V DC	110-415V AC 110-220V DC
Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Possible standard auxiliary switch	Z-NHK	Z-NHK	ZP-NHK	ZP-NHK
<b>Mechanical</b>				
Frame size	45 mm	45 mm	45 mm	45 mm
Device height	80 mm	80 mm	80 mm	80 mm
Device width	17.5 mm (1MU)	17.5 mm (1MU)	17.5 mm (1MU)	17.5 mm (1MU)
Mounting	quick fastening with 2 lock-in positions on DIN rail IEC/EN 60715			
Degree of protection, built-in	IP40	IP40	IP40	IP40
Terminal protection	finger and hand touch safe according to BGV A3, ÖVE-EN 6			
Terminals	open mouthed/lift	open mouthed/lift	open mouthed/lift + guide	open mouthed/lift + guide
Terminal capacity	1-25 mm <sup>2</sup>	1-25 mm <sup>2</sup>	1-25 mm <sup>2</sup>	1-25 mm <sup>2</sup>

### Dimensions (mm)

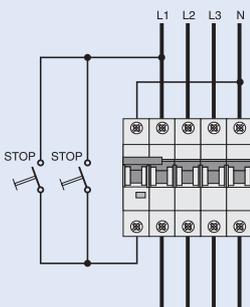
Z-ASA



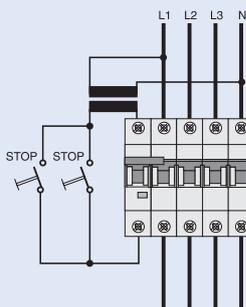
ZP-ASA



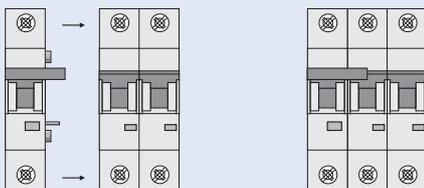
### Connection Example 230 V



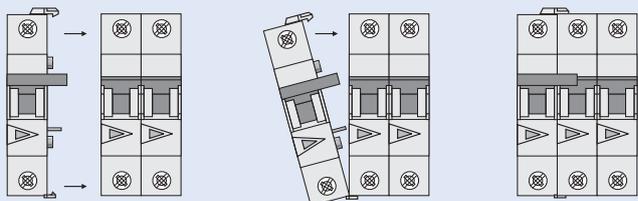
### Connection Example 24 V



### Example: Z-ASA + PLS



### Example: ZP-ASA + PLS

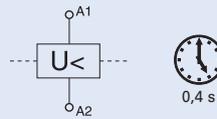


# Accessories for Protective Devices

## Undervoltage Release Z-USA, Z-USD

- Tripping:
  - Instantaneous Z-USA
  - Delayed Z-USD, typ. 0,4 s
- Voltage control indicator blue/white
- Service key for zero voltage switch-on for testing purposes
- Can be used with PLS, CLS, Z-A40 and Z-MS

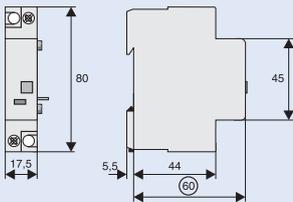
### Connection diagram



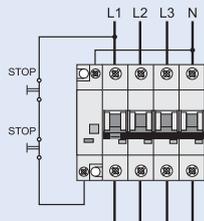
### Technical Data

	Z-US./115	Z-US./230	Z-US./400
<b>Electrical</b>			
Rated voltage $U_n$	115 V AC	230 V AC	400 V AC
Frequency	50-60 Hz	50-60 Hz	50-60 Hz
Making threshold	80% of $U_n$	80% of $U_n$	80% of $U_n$
Tripping threshold	50% of $U_n$	50% of $U_n$	50% of $U_n$
<b>Mechanical</b>			
Frame size	45 mm	45 mm	45 mm
Device height	80 mm	80 mm	80 mm
Device width	17.5 mm (1MU)	17.5 mm (1MU)	17.5 mm (1MU)
Mounting	quick fastening on DIN rail IEC/EN 60715		
Degree of protection, built-in	IP40	IP40	IP40
Terminals	open mouthed/lift	open mouthed/lift	open mouthed/lift
Terminal capacity	1 - 2x2.5 mm <sup>2</sup>	1 - 2x2.5 mm <sup>2</sup>	1 - 2x2.5 mm <sup>2</sup>
Terminal protection	finger and hand touch safe, according to BGV A3, ÖVE-EN 6		

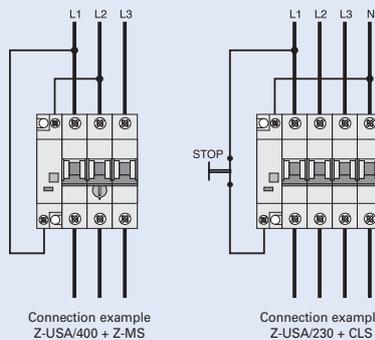
### Dimensions (mm)



### Connection Example Release



### Connection Examples 400V and 230V

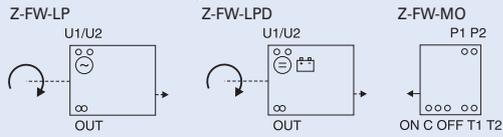


# Accessories for Protective Devices

## Remote Control and Automatic Switching Z-FW

- Shape compatible switching device suitable for subsequent installation for automatic re-setting and remote control of CLS6, PFIM, PFHM-4p, dRCM, Z-A40, PFR, Z-MS
- Mechanical interlock, can be sealed with leads
- Mechanical switching capability up to max. PFIM-100/4p, CLS6-100/4p
- Operating and alarm display by green and red LED
- Function extension with Switching Modul Z-FW-MO  
Operating and trouble display by LED pre-assembled only with Z-FW...

### Connection diagrams

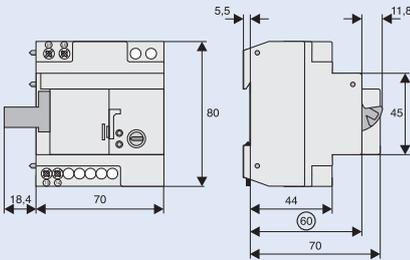


### Technical Data

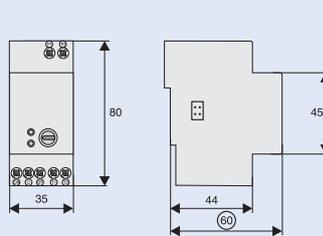
	Z-FW-LP	Z-FW-LPD	Z-FW-MO
<b>Electrical</b>			
Possible operating voltages	220-240 V AC	24-48 V DC	-
Frequency	50/60 Hz	-	-
Testing module (0.5MU) for remote testing of RCDs	Z-FW...	Z-FW...	-
Control voltage for remote control	-	-	24-230 V AC/DC
Relay output for tripping test with Z-FW	-	-	400 V AC max.
Relay output for alarm, potential-free	5A/250V AC	5A/250V AC	-
Functions	automatic restarting	automatic restarting	+ON/OFF/TEST
Function selector	Automatic 5x, OFF/RESET	Automatic 5x, OFF/RESET	ON, OFF/RESET
Remote control function via telephone with Telecommander	-	-	-
<b>Mechanical</b>			
Frame size	45 mm	45 mm	45 mm
Device height	80 mm	80 mm	80 mm
Device width	70 mm	70 mm	35 mm
Mounting	quick fastening with 2 lock-in positions on DIN rail IEC/EN 60715		-
Degree of protection, built-in	IP40	IP40	IP40
Terminal protection	finger and hand touch safe according to BGV A3, ÖVE-EN 6		
Terminals	lift terminals	lift terminals	lift terminals
Terminal capacity	2 x 1.5mm <sup>2</sup> or 1 x 2.5mm <sup>2</sup>	2 x 1.5mm <sup>2</sup> or 1 x 2.5mm <sup>2</sup>	4 x 1.5mm <sup>2</sup> or 2 x 2.5mm <sup>2</sup>
Scope of delivery	-	-	Coupling plug

### Dimensions (mm)

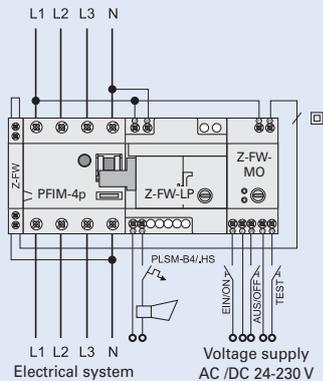
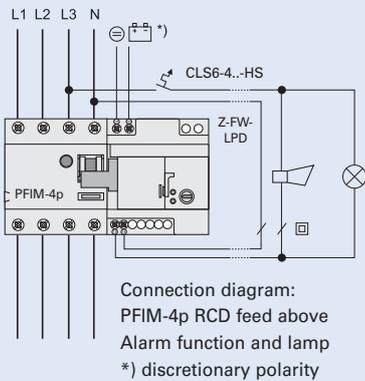
Z-FW-LP, -LPD



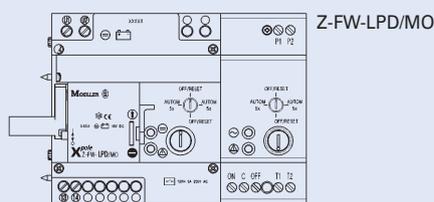
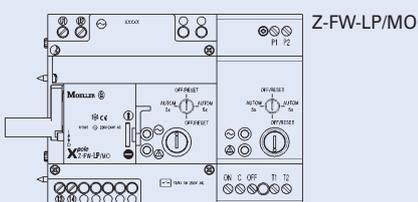
Z-FW-MO



### Connection example



### Pre-mounted Sets

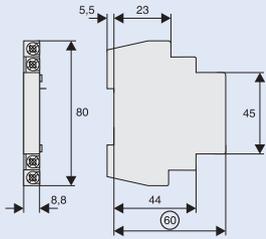


# Accessories for Protective Devices

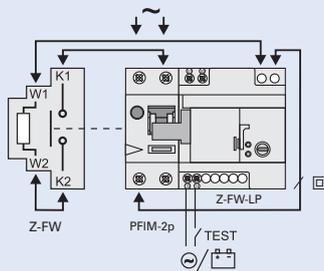
## Remote Testing Module Z-FW (for Z-FW-LP)

- External testing module with testing resistor for RCDs
- Proper "external" test key function according to the applicable rules thanks to design adapted to the rated tripping current
- For remote testing with remote control and automatic switching device Z-FW-LP
- No undesired voltage rise in the consumer system during remote switch-off thanks to integrated breaker contact K1-K2
- Can also be used as a remote tripping module for PFIM, PFHM

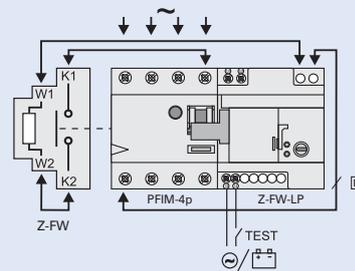
### Dimensions (mm)



### Connection examples



Connection diagram:  
PFIM-2p, RCD feed above



Connection diagram:  
PFIM-4p, RCD feed above

# Accessories for Protective Devices

## Switching interlocks IS/SPE-1TE, Z-IS/SPE-1TE

- Without lock

### Type IS/SPE-1TE:

- for Isolators, RCDs, combined RCD/MCBs, ...

### Type Z-IS/SPE-1TE:

- for MCBs and Circuit Breaker ZP-A

