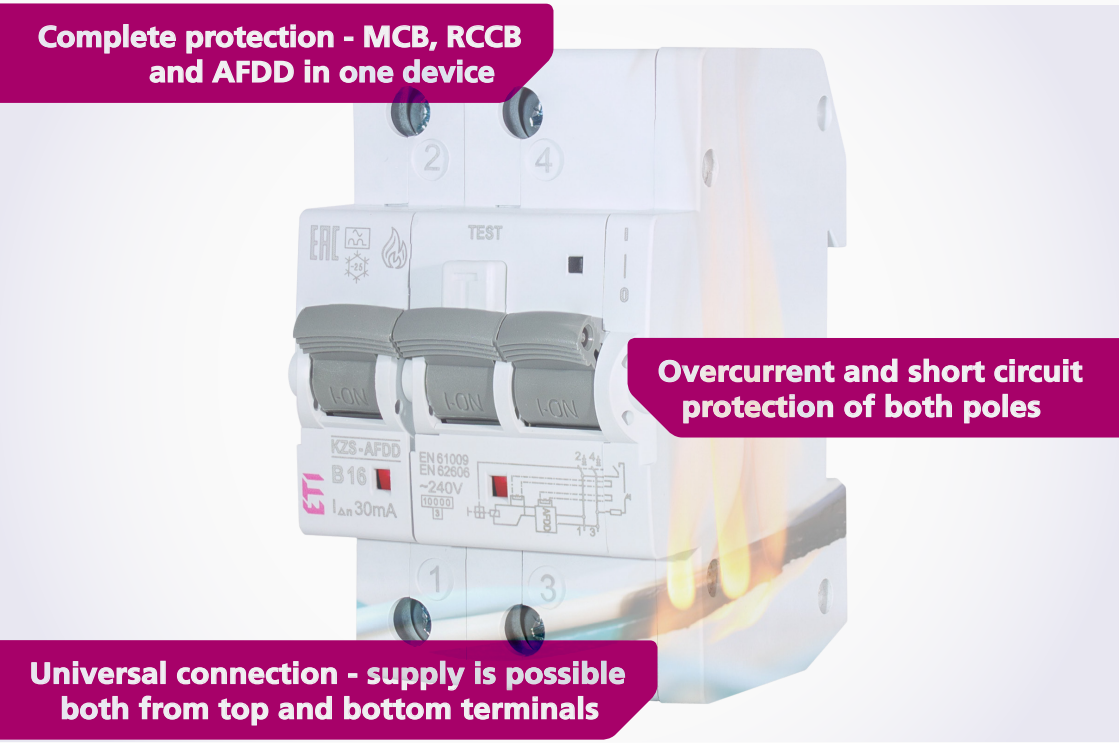
AFDD

New Series of Arc Fault Detection Devices

Complete protection - MCB, RCCB and AFDD in one device



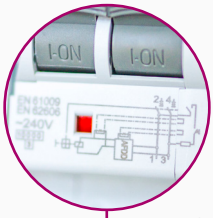
Overcurrent and short circuit protection of both poles

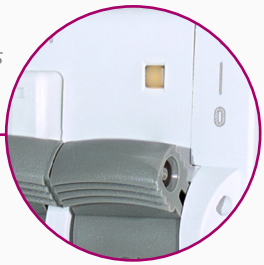
Universal connection - supply is possible both from top and bottom terminals

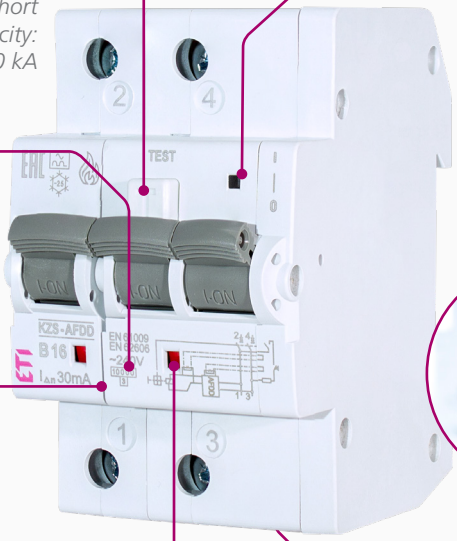
Thinking of safety - so you don't have to

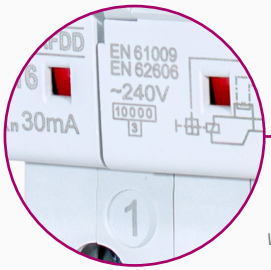
Advantages of the new AFDD

- Complete protection: MCB, RCCB and AFDD in one device
- Supply is possible both from top and bottom terminals
- Test button enables user to check residual functionality
- All necessary technical & installation information can be found on the front of the device
- Rated short circuit capacity: 10 kA
- LED indication of various types of fault (see table)
- Better protection of terminals against touching the parts under voltage
- Overcurrent and short circuit protection of both poles
- Real contact position indication for easier identification, whether the device is in ON or OFF position
- Clearly marked terminals to ensure appropriate connection
- High mechanical endurance: 20.000 cycles
- High electrical endurance: 10.000 cycles



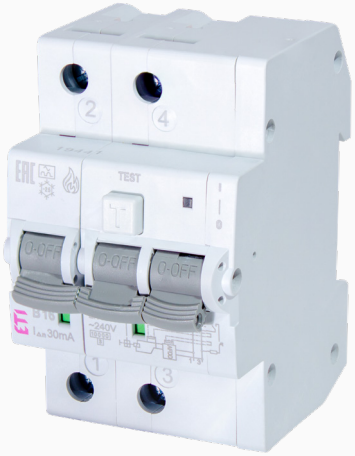






KZS - AFDD 3M2p

I_n [A]	$I_{\Delta n}$ [A]	Nr. of poles	A type		Weight [g]	Packaging [pcs]
			Code No B	Code No C		
6	0,03	2	002173811	002173871	377	1/33
10	0,03	2	002173812	002173872	377	1/33
13	0,03	2	002173813	002173873	377	1/33
15	0,03	2	002173819	002173879	377	1/33
16	0,03	2	002173814	002173874	377	1/33
20	0,03	2	002173815	002173875	377	1/33
25	0,03	2	002173816	002173876	377	1/33
32	0,03	2	002173817	002173877	377	1/33



Condition	LED Flashing sequence repeats every 1,5 sec for next 25 sec after powering up	After 25 sec
Series Arc Fault	● ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ...	● ● ● ● ● ● ...
Parallel Arc Fault	● ○ ○ ○ ● ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ...	● ● ● ● ● ● ...
Over Voltage Fault	● ○ ○ ○ ● ○ ○ ○ ● ○ ○ ○ ○ ○ ○ ○ ...	● ● ● ● ● ● ...
Self-Test Fault	● ○ ● ○ ● ○ ● ○ ● ○ ● ○ ● ○ ● ○ ...	● ● ● ● ● ● ...
No Fault	● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ...	● ● ● ● ● ● ...

Technical features

Technical data KZS - AFDD 3M2p	
Electrical	
Rated Voltage U_n	240 V AC
Rated current I_n	6, 10, 13, 15, 16, 20, 25, 32 A
Rated residual operating current $I_{\Delta n}$	30 mA
Rated frequency f_n	50Hz
Type	A
Tripping characteristic	B, C
Rated short-circuit capacity	10kA
Rated insulation voltage U_i	440 V
Rated impulse withstand voltage U_{imp}	4kV (1,2/50µs)
Peak withstand current	3kA (8/20µs) surge current proof
Voltage range test circuit	135-264V
Min operating voltage for AFDD function	180V
Rated residual making and breaking capacity $I_{\Delta m}$	4500A
Electrical isolation	> 4mm contact space
Max back-up fuse	100A gG
Insulating class	B
Standards	IEC/EN 61009-1, IEC/EN 62606
Mechanical Endurance	20.000
Electrical endurance	10.000
Mechanical	
Frame size	45mm
Device height	69 mm
Device width	53.5 mm
Degree of protection	IP20
Upper and lower terminals	open mounted/lift terminals
Terminal capacity	1-25 mm2
Terminal screw	M5 (Pozidrive PZ2)
Terminal torque	max 3,0 Nm
Operating temperature	-25°C ... +50°C
Storage and transport temperature	-40°C ... +70°C
Resistance to climatic conditions	IEC/EN 61009-1
Shock resistance	Acc to IEC/EN 61009-1
Resistance to vibrations acc. to IEC60068-2-7	5g (10,60 & 500Hz)
Contact position indicator	mechanical red/green
Supply possibility	Top or bottom
Mounting on the rail	35mm acc to EN60715
Mounting position	any

Self-Test function explanation

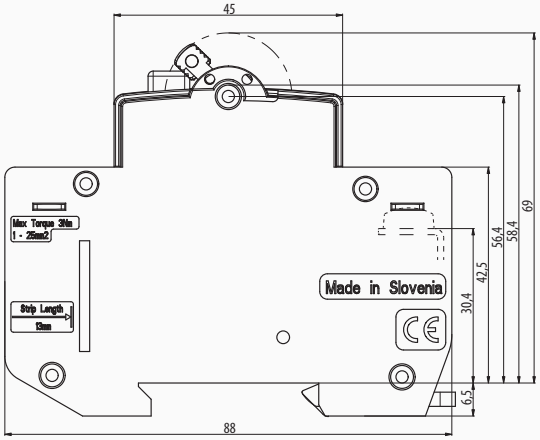
How often does Self-test function perform on the AFDD?
Every time it is powered and then once every minute while powered.

What happens in the case that Self-test function is not positive, so if it fails this test, the AFD function does not work anymore?
If the self-test (automatically initiated test function) fails then the AFDD outputs a trip command. The self test checks the AFD function so if it fails then the AFD function is not operating correctly.

In the case of failing Self-test fault what happens further: Does the AFDD trip immediately or does it trip after relatching the switch, or does not trip and just signalizes?
After a self-test failure the device will trip. Upon re-latching the AFDD signals the self-test fault by flashing the LED as described for the self-test fault below, it then does a self-test and if the result is a fail it will trip. If the AFDD cannot trip due because the tripping means is compromised (e.g. damaged PMR) it will continuously flash the LED (self-test fault) as long as it remains powered. If the self-test is a pass after re-latching then the flashing LED will cancel after 25 seconds.

conductor cross-section [mm²]	Number of single conductors, rigid, single-wire Cu conductor				
	1	2	3	4	5
1,5	✓	✓	✓	✓	×
2,5	✓	✓	✓	×	×
4	✓	✓	✓	×	×
6	✓	✓	×	×	×
10	✓	✓	×	×	×
16	✓	×	×	×	×
25	✓	×	×	×	×

Remark: When you use more than 2 cables you have to be careful how those cables are inserted, due to insure proper presure on each cable



conductor cross-section [mm²]	Number of single conductors, flexible Cu conductors					
	1	2	3	4	5	6
1,5	✓	✓	✓	✓	✓	✓
2,5	✓	✓	✓	✓	✓	✓
4	✓	✓	✓	✓	✓	✓
6	✓	✓	✓	×	×	×
10	✓	✓	×	×	×	×
16	✓	×	×	×	×	×
25	✓	×	×	×	×	×

Combination of rigid single-wire and flexible multi-wire Cu conductors is not allowed