



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**

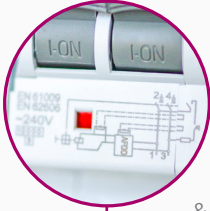
Thinking of safety - so you don't have to



Advantages of the new AFDD

✦ Complete protection: MCB, RCCB and AFDD in one device

✦ Supply is possible both from top and bottom terminals



✦ All necessary technical & installation information can be found on the front of the device

✦ Rated short circuit capacity: 10 kA



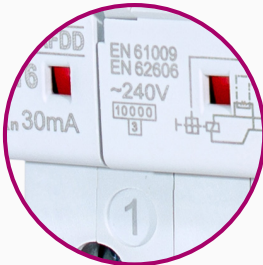
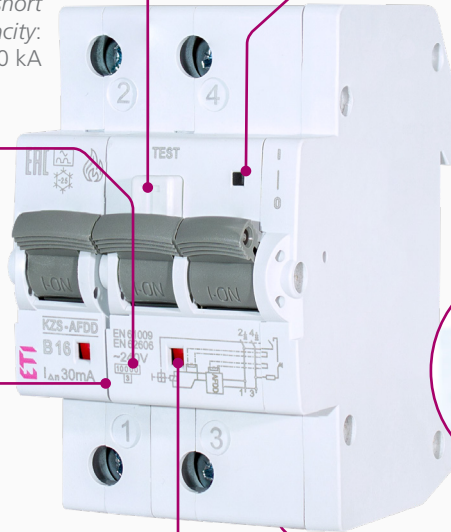
✦ Test button enables user to check residual functionality

✦ 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

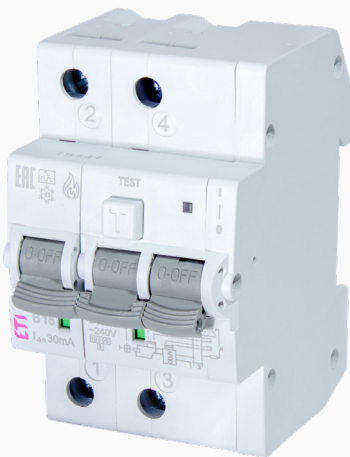
✦ Clearly marked terminals to ensure appropriate connection

✦ 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 (1,2/50ms)
Peak withstand current	3kA (8/20ms) 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 62423, 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 mm ²
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
Shock resistance	Acc to IEC/EN 61008-1
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 EN50022
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?

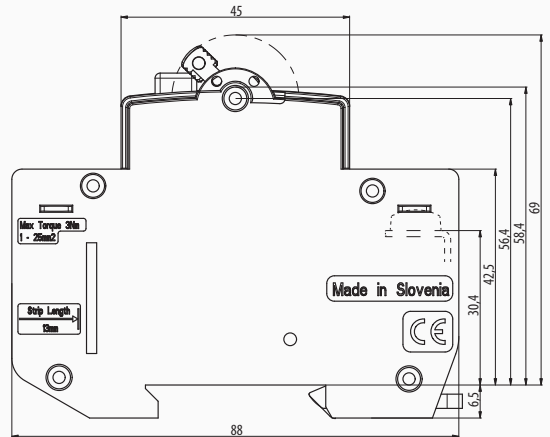
If the self-test (automatically initiated test function) fails then the AFDD outputs a trip command. The self test checks the AFD function so if it fails then the AFD function is not operating correctly.

✦ 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.

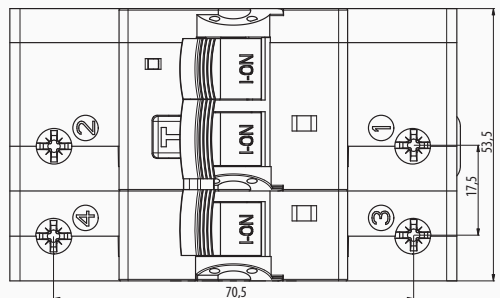
conductor cross-section [mm ²]	Number of single conductors, rigid, single-wire Cu conductor				
	1	2	3	4	5
1,5	✓	✓	✓	✓	✗
2,5	✓	✓	✓	✗	✗
4	✓	✓	✓	✗	✗
6	✓	✓	✗	✗	✗
10	✓	✓	✗	✗	✗
16	✓	✗	✗	✗	✗
25	✓	✗	✗	✗	✗

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

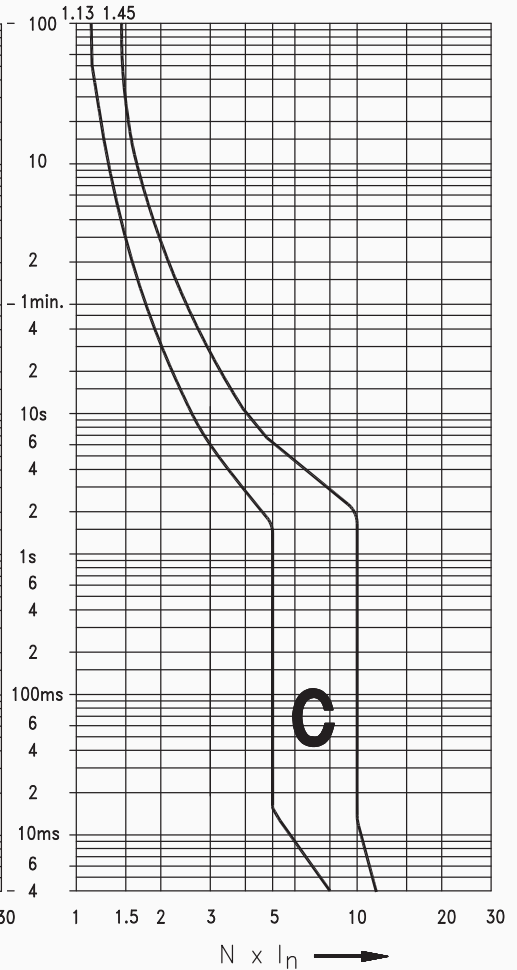
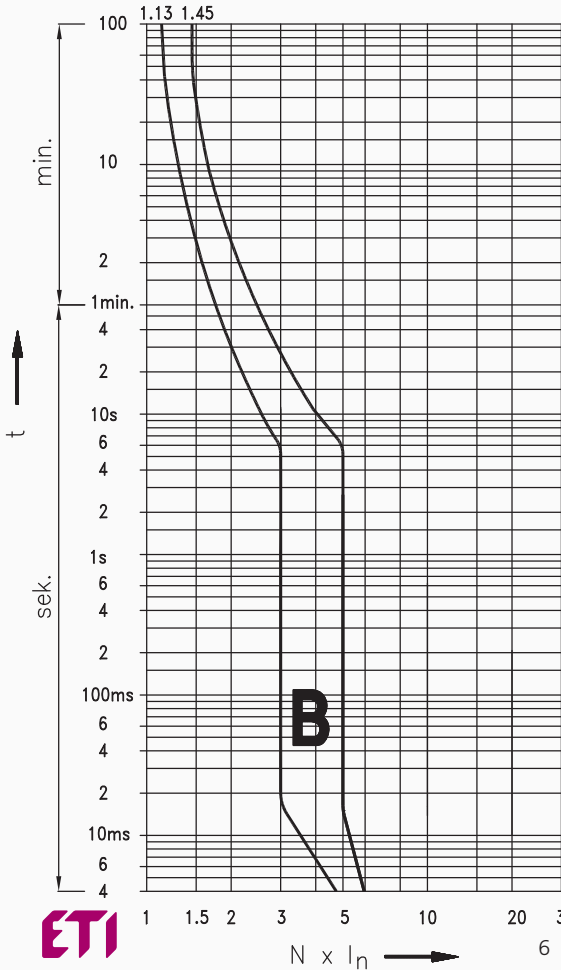
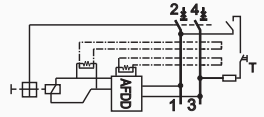


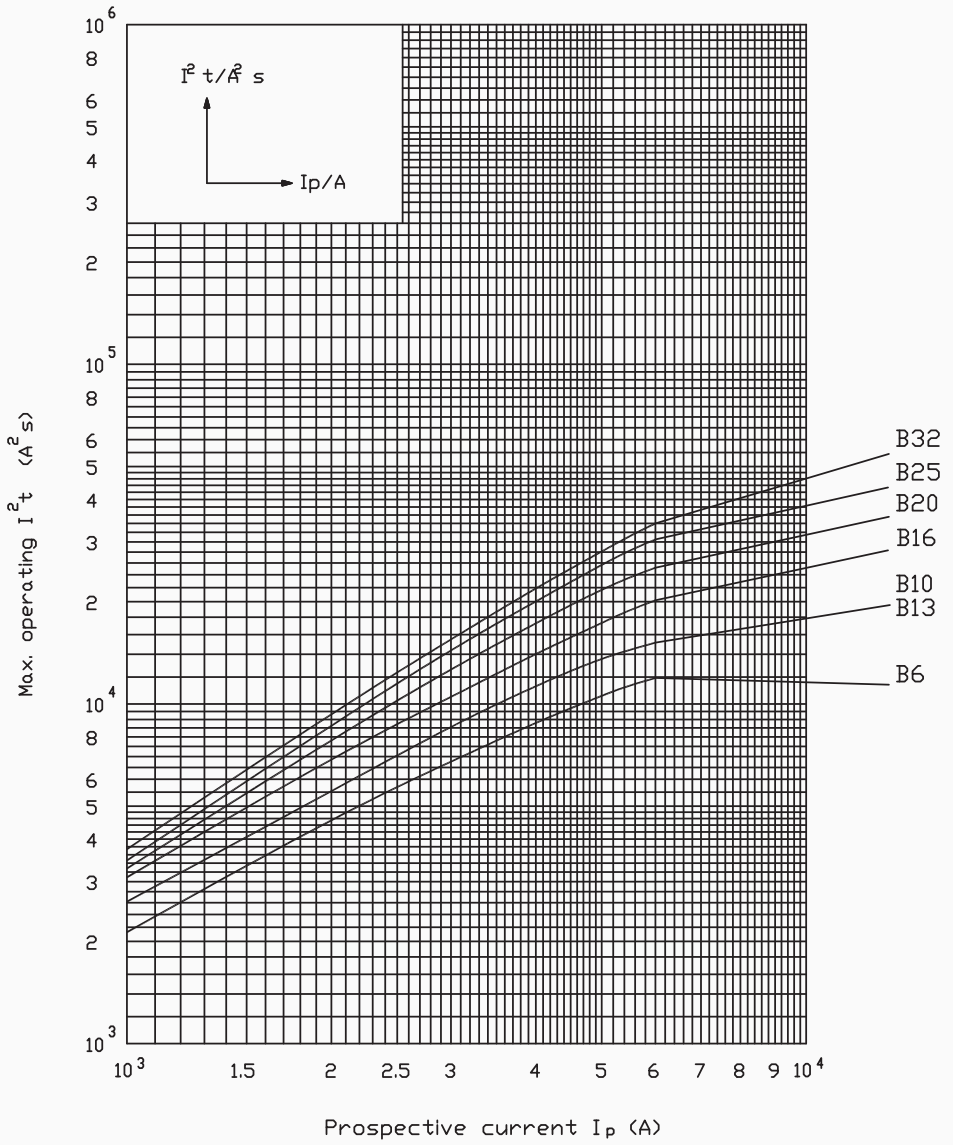
conductor cross-section [mm ²]	Number of single conductors, flexible Cu conductors					
	1	2	3	4	5	6
1,5	✓	✓	✓	✓	✓	✓
2,5	✓	✓	✓	✓	✓	✓
4	✓	✓	✓	✓	✓	✓
6	✓	✓	✓	✗	✗	✗
10	✓	✓	✗	✗	✗	✗
16	✓	✗	✗	✗	✗	✗
25	✓	✗	✗	✗	✗	✗

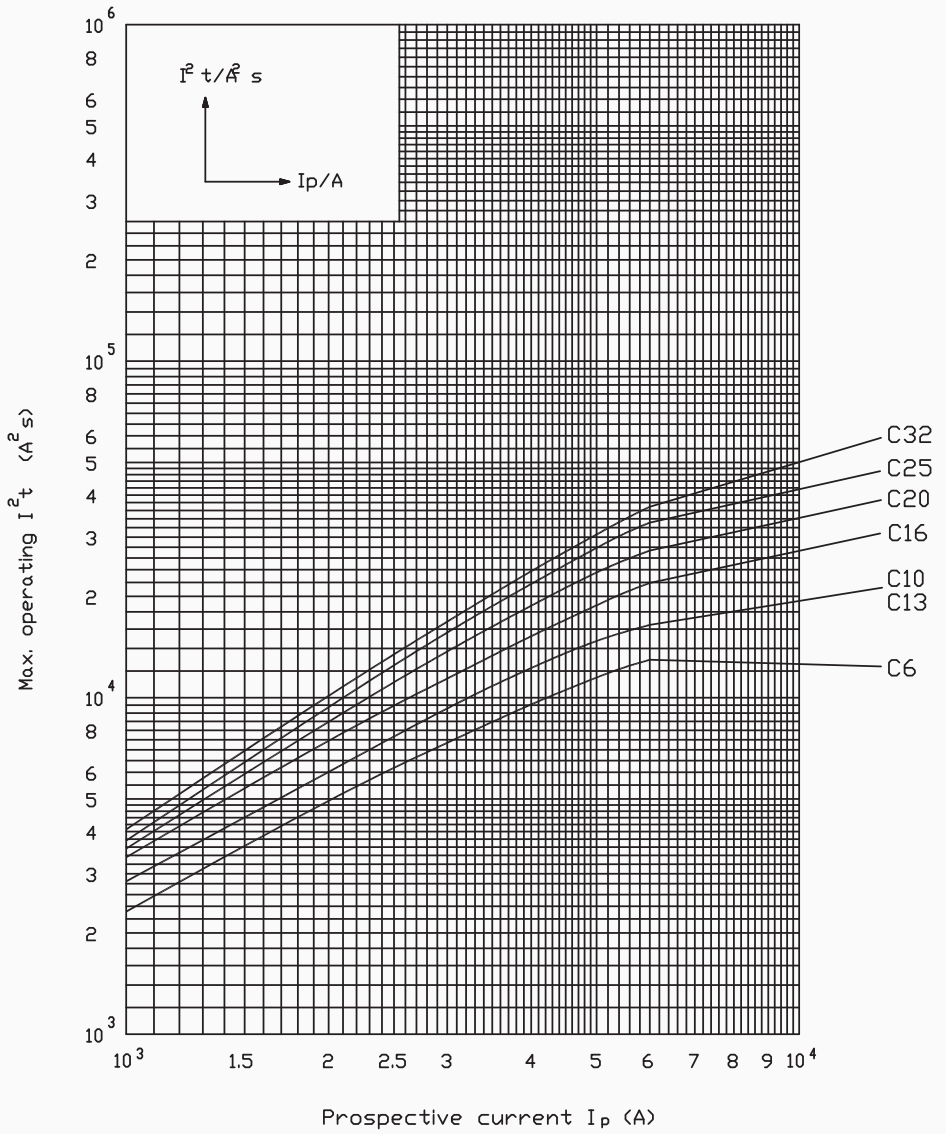
Combination of rigid single-wire and flexible multi-wire Cu conductors is not allowed

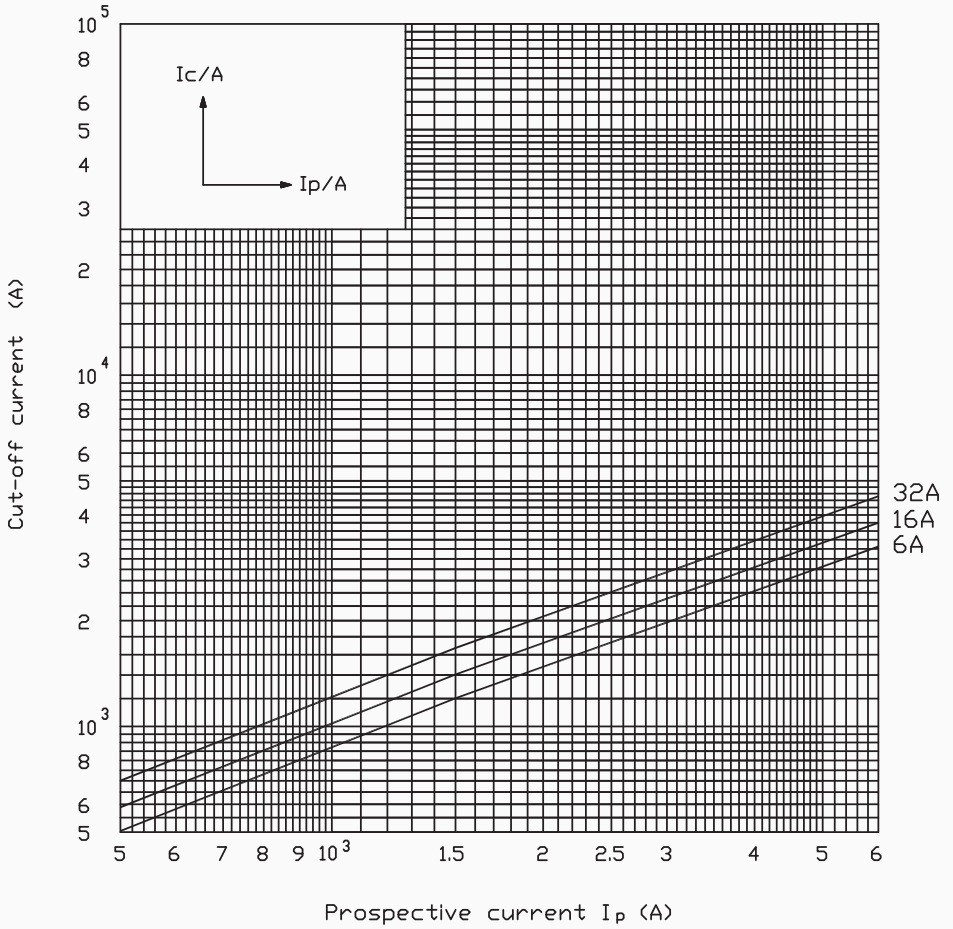


I_n [A]	Power dissipation P/pole [W]	Rh [mΩ]	Rh/pole [mΩ]
6	1,5 - 1,7	126	63
10	1,6 - 1,8	86	43
13	1,8 - 2,0	60	30
16	1,9 - 2,2	48	24
20	2,2 - 2,4	40	20
25	2,8 - 3,1	34	17
32	4,0 - 4,4	24	12









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