

## Overcurrent Protection A 32 DX

## Application:

The A 32 DX protection is used as a three-phase overcurrent protection of electrical appliances at overload and short-circuit.

## Description:

The A 32 DX is three-phase steady-state protection. The measuring elements each of phases have independent adjustment and their performance is delayed 60-75 ms, so that the protection doesn't inclined to inrush current of electrical equipment.

The output relays each of phases have one break-make contact. The relay operates if the current exceeds a value preset on the control panel. The signalling of the relay operation is realized by a memory circuit and the red LED. The LED is shut down by RESET push-buttons situated on the front panel and on the casing as well.

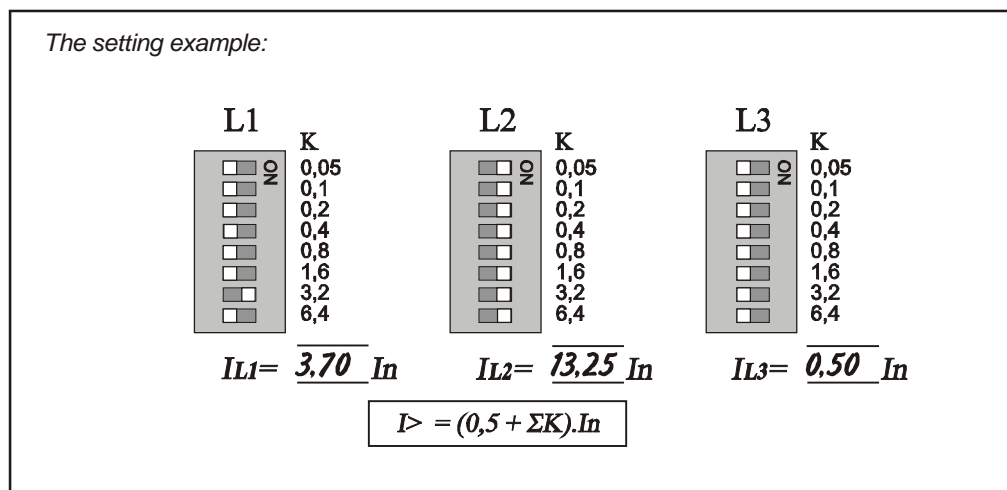
The protection needs auxiliary voltage for its operation. The protection is produced in two designs (auxiliary feeding ranges): 18 - 60 V AC, DC and 40 - 265 V AC, DC. An auxiliary voltage presence is indicated by green LED.

## Testing:

The protection testing is possible with removed cover and coincident pressing TEST and RESET push-buttons.

During the testing output relays operate and the red IL1>, IL2>, IL3> LEDs light up .

Attention: Don't test during an operation!



**Fig. 1** The view of the control part a front panel a protection A 32 DX

The L1 phase - setting at  $I > = 3,70 I_n$

The L2 phase - setting at  $I > = 13,25 I_n$

The L3 phase - setting at  $I > = 0,50 I_n$

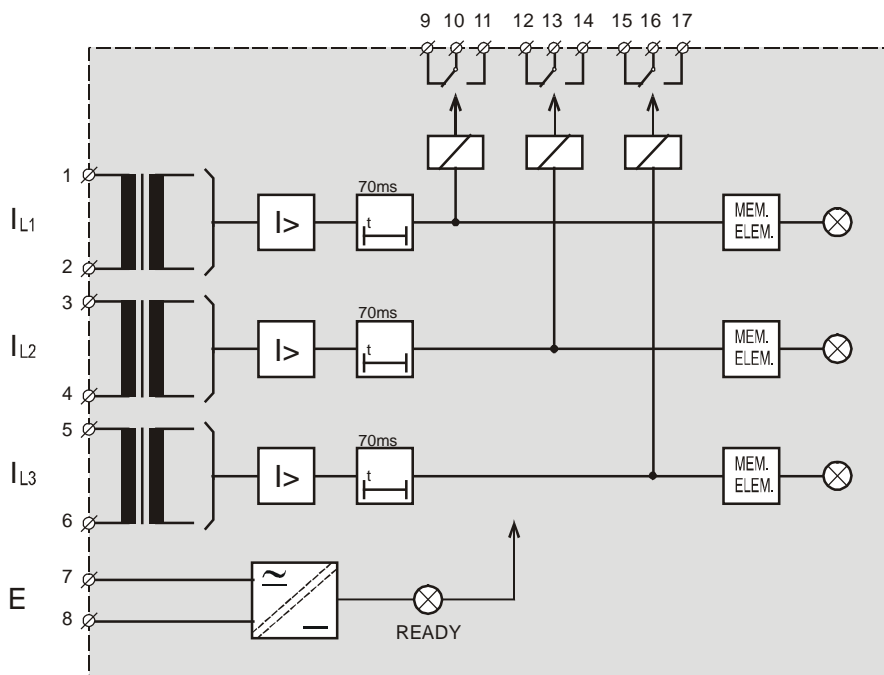


Fig. 2 The block diagram of the protection A 32 DX

### Technical data:

Rated current  $I_n$  1 or 5 A  
 Nominal frequency  $f_n$  50 or 60 Hz  
 Current circuit consumption < 0,5 VA for  $I_n = 5$  A; < 0,05 VA for  $I_n = 1$  A

### Auxiliary voltage $E$

Voltage ranges 18 - 60 V DC, AC or 40 - 265 V DC, AC  
 Auxiliary circuit consumption < 7 W  
 Overshoot time to current reduced:  
 - 18 - 60 V DC, AC design  $t_p < 0,2$  s at 48 V DC, AC;  $t_p < 0,3$  s at 60 V DC, AC  
 - 40 - 265 V DC, AC design  $t_p < 0,2$  s at 110 V DC, AC;  $t_p < 0,9$  s at 220 V DC, AC  
 Ground terminal on the casing  
 Fuse nominal value 2 A

### Measuring elements

Adjustability from 0,5 to 13,25  $I_n$  by 0,05  $I_n$   
 Accuracy  $\pm 5$  % of the preset value  
 Resetting ratio 0,93 - 0,96  
 Operation delay 60 - 75 ms  
 Return time 30 - 50 ms  
 Overload capacity  
 - thermal 4  $I_n$  / permanently; 10  $I_n$  / 8 s; 70  $I_n$  / 1s  
 - dynamic (for half cycle) 200  $I_n$

### Contacts

Sustained rating 4 A  
 Switching capacity and rating for time 0,5 s 20 A  
 Shock loading for time 30 ms 100 A  
 Switching capacity for 110 V AC 2000 VA  
 Maximum switching voltage 250 V DC, AC  
 Breaking capacity for R/L = 40 ms  
 1,5 A at  $U = 50$  V DC  
 0,3 A at  $U = 110$  V DC  
 0,1 A at  $U = 220$  V DC

### Material

AgCd0

### Signalling LEDs

READY	green	- auxiliary voltage presence
IL1>, IL2>, IL3>	red	- measuring elements operation

### Working environment

Temperature range	from -25 to +55 °C
Working position	arbitrary
Operation type	continual

### Insulating tests

Insulation strength	2 kV, 50 Hz, 1 min	IEC 60255-5
Pulse voltage test	5 kV; 1,2/50 µs	IEC 60255-5

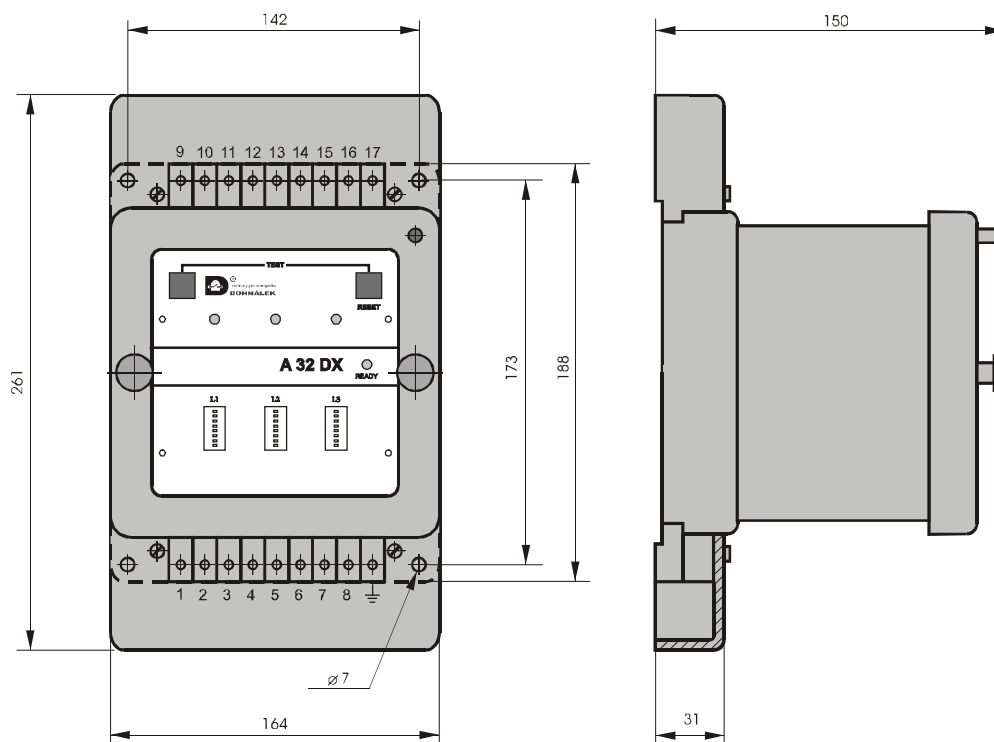
### Electromagnetic compatibility (EMC)

Electrostatic discharge	6/8 kV (10 cycles)	IEC 1000-4-2
Interference of radio frequency	10 V/m	IEC 1000-4-3
Impulse group	2/4 kV / 5 kHz	IEC 1000-4-4
Induced HF field propagate by line	from 150 kHz to 80 MHz / 10 V	IEC 1000-4-6
Magnetic field disturbance	100 A/m	IEC 1000-4-8

### Mechanical performance

IP code	IP 20
Terminals	one conductor from 1,5 to 6 mm <sup>2</sup> two conductors from 1 to 2,5 mm <sup>2</sup>
Weight	2,5 kg

**Information required for ordering:** **In** - rated current, **E** - auxiliary voltage range, **fn** - nominal frequency



For non-tolerated dimensions is valid ČSN ISO 2768-2

**Fig. 3** The terminals position and A 32 DX protection dimensions