

Low voltage distribution

Fuse Monitoring 100VAC to 690 VAC



The FM fuse monitoring provides a facility for an immediate tripping option after a fuse blown:

- no danger for 2-phase motor loading
- prevents unsafe neutral voltages
- Small and compact size
- No need for external supply voltage
- Wide voltage range 100V...260VAC and 380V...690VAC
- Full operational ability even with phase unbalance
- Safe and reliable
- EMC-tested
- Operates with all standard fuses
- Suitable for monitoring the fuses in capacitor banks

The FM Fuse Monitoring can be used with fuse links of all types and sizes. Striker-type fuses are not required which reduces overall cost. The red pilot light indicates any fuse blown and 1 N/O. + 1 N/C. auxiliary contacts give an alarm or a trip signal.

The FM Fuse Monitoring has a green LED indicating normal status (a voltage on fuse holders). The green LED turns off and the red LED on, in the case of one or more fuses blown.

The FM Fuse Monitoring is automatically reset after the blown fuses have been replaced.

Extreme safe operation has been ensured by testing the FM unit with a 14.8 kV impulse voltage across the blown fuse and with 5 kV/1 min voltage test between the power circuit and auxiliary contacts.

The wires on the supply side are double insulated. For the new ITC-switch fuse, there is a snap-on mounting available on to the side of the switch. For other ITC-switchfuses or NH-fusebases, the fuse monitoring can be screwmounted with mounting feet or snap on DIN rail when using the FM model.



The green led in ready and ok state and the red led in the failure situation.



Fuse monitoring mounted to the ITC-switch fuse.

Ordering Information

Fuse Monitoring, Suitable for 3-phase circuits (can be used for single-phase).

- includes the auxiliary contacts 1NO + 1NC.

Reference	Cat Number	Rated voltage [Vac]	Mounting on	Weight [kg]	Pack [pcs]
N229276A	FM100/260	100...260	ITC	0.14	1
P229277A	FM380/690	380...690	ITC	0.14	1
S236824A	FM100/260RD	100...260	Rail DIN	0.19	1
T236825A	FM380/690RD	380...690	Rail DIN	0.19	1

Mounting accessories

Includes 6 pcs crimp terminals.



Reference	Cat Number	For switch size ITC/ITCP	Crimp terminal size [mm]	Pack [pc]	Description
J229272A		ITC/ITCP 32,63,125,160	2.8 - 0.8	1	6 x Terminals 2.8 mm
K229273A			6.3 - 0.8	1	6 x Terminals 6.3 mm
L229274A		ITC/TTCP 250,400,630,800	6.3 - 0.8	1	6 x Clamps for fitting - 2.5 or 5mm Cubars

Technical Data, Type FM 690

Power Circuit

Connection wire no:s 1, 3, 5
 Connection wire no:s 2, 4, 6
 Rated voltage FM 100 to 260
 Rated voltage FM 380 to 690
 Voltage tolerance
 Power consumption
 Rated frequency
 Measuring impedance
 Impulse test voltage (1.2 / 50 μ s)

Double insulated 0.75mm² Cu, length 60 cm
 0.75 mm² Cu, length 60 cm
 100 Vac ... 260 Vac
 380 Vac ... 690 Vac
 -10% ... +10%
 < 3 VA
 50 / 60 Hz
 > 1000 Ω /V
 - Phase to phase 9.8 kV
 - Supply to load 14.8 kV



ITC 32

Output terminals (Auxiliary contacts)

Terminals :

FM —/—
 FM —/—RD

13-14 (NO), 21-22 (NC)
 11-14 (NO), 21-22 (NC)



ITC 250

Wire section:

Flexible Cu
 Rigid Cu

Rated current Ie

1,5 mm²
 2,5 mm²
 4A / 250Vac / AC1
 3A / 250Vac / AC15
 2A / 24Vdc / DC13
 20mA / 24Vac/dc
 250 Vac / 440 Vac
 2000 VA
 Cadmium free



CMS Base

Minimum for sure operation
 Rated voltage / max. breaking voltage
 Rated breaking capacity
 Contact material

Characteristics

Specified ambient air temperature range
 Transport and storage temperature range
 Operating time
 Overvoltage category / Pollution severity
 Dielectric test voltage:
 Power circuit/output terminals

-25...+55° C
 -40...+70° C
 < 2 sec
 III / 3 IEC 947-1
 5 kVrms / 1 min 50Hz



NH Base

EMC:

Emission
 Conducted Emission
 Radiated Emission
 Harmonic Currents Emissions
 Immunity
 Electrostatic Discharge (ESD)

EN 55022 (1994) Class B
 EN 55022 (1994) Class B
 EN 61000-3-2 (1995) Class A

RF Radiated Field
 Electrical Fast Transient (EFT)
 RF Electromagnetic Conducted
 RF Electromagnetic Field (GSM)

EN 61000-4-2 (1995) Criteria B Level 2/3
 (Contact/Air)
 EN 61000-4-3 (1996) Criteria A Level 3
 EN 61000-4-4 (1995) Criteria B Level 3
 EN 61000-4-6 (1996) Criteria A Level 3
 ENV 50204 (1995) Criteria A

Magnetic field immunity

Continuous
 Pulse 1.2 / 50 μ s

EN 61000-4-8 (1993) Level 5
 EN 61000-4-9 (1993) Level 5
 Self-extinguish thermoplast with V-0 behavior
 in accordance with UL 94

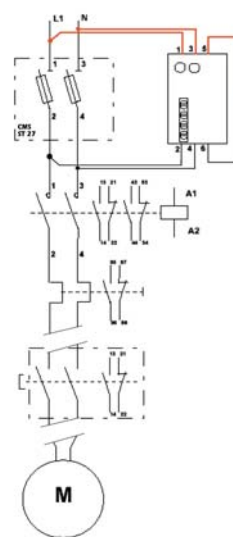
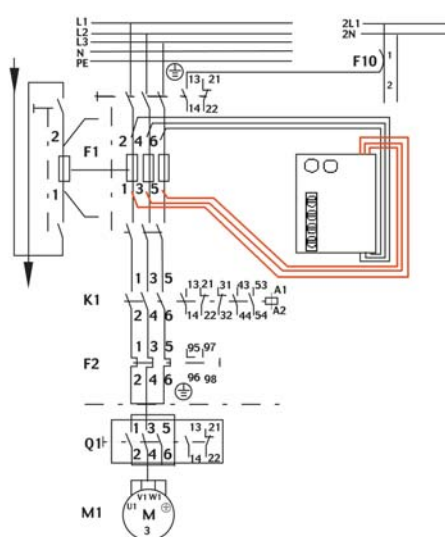
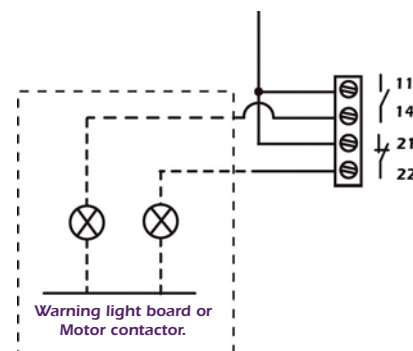
Housing

Degree of protection:

Weight

IP 20
 140 g

The diagram illustrates a three-phase power distribution system. At the top, a transformer with a primary winding (M1) is connected to a 20kV line. The secondary winding (M3) provides three-phase output (1, 2, 3) to a busbar. From this busbar, three main feeders (F1, K1, F2) are derived. Each feeder has a 6kV busbar with terminals 1, 2, 3, 4, 5, and 6. Feeder F1 is connected to a 20kV line (2L1, 2N) via a circuit breaker (F10). Feeder K1 is connected to a 6kV busbar (K1) with terminals 1, 2, 3, 4, 5, and 6. Feeder F2 is connected to a 6kV busbar (F2) with terminals 1, 2, 3, 4, 5, and 6. The diagram also shows a 6kV busbar (Q1) with terminals 1, 2, 3, 4, 5, and 6, and a 6kV busbar (M1) with terminals 1, 2, 3, 4, 5, and 6. The system is grounded through a neutral point (N) and a ground connection (PE).

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