



symbolic image

UK Technical Data 02

DFL 8 *-4/X-A 400/690V 50Hz**
sensitive to pulsating and alternating currents Type A
adjustable residual current and time delay (selective)



Function

Circuit-breakers with adjustable thermal and magnetic trips + integral residual current protection (CBR) with adjustable characteristic. For implementing the protective measure "Automatic disconnection of the power supply" as per BS 7671 - 411 and overcurrent protection as per 431, in circuits maintained by electrically instructed persons - see 531.3.4.2.

Available in ratings from 100A < 250A, for use in 3 phase + N circuits from 400V to 690V 50Hz.

The X - A version has an adjustable residual current setting $I_{\Delta n}$ (0.30 A, 0.50 A, 1.00 A, 3.00 A) and a time delay setting* (four different delay levels at $2 \times I_{\Delta n}$ / EN 60947-2 Appendix B), to enable selective settings with upstream and downstream devices.

*Time delay settings, refer to: Table 4.1.1 Note 2 and the rest!

Features

Adjustable rated residual current, detection of AC residual currents and pulsating DC residual currents Type A.

Rated currents from 100 A to 250 A, four-pole.

Rated voltage 400/690V 50Hz.

High short-circuit switching capacity- refer to the data sheet.

Terminal capacity < 185 mm².

Transient resistant feature.

Mounting

Screw directly to a mounting plate, supply from top or bottom of the device.

Applications

Power supplies to purpose-built buildings as well as industrial facilities with TN-S, TT and TN-C-S networks with high short-circuit power, In IT networks, the residual current trip of the CBR can be set to switch off in the event of a second earth fault.

Not suitable for use in TN-C networks or for the protection of installations in which electronic equipment could generate smooth DC currents or residual currents with frequencies other than 50 Hz: Refer to BS 7671 - 531.3.3 Types of RCD / see DFL8 BNK or BSK.

Accessories

Housings N-7 / DFL8 Enclosure - Insulated IP54

Technical Data

Technical Data	DFL 8 ***4/X-A
Series	DFL 8 A X
Number of poles	4
Residual current type	A
Rated current (AC)	Refer to the individual product reference, data sheet available on request
Rated residual current $I_{\Delta n}$	0.30 A, 0.50 A, 1.00 A, 3.00 A
Short-time delayed	true
Selective	true

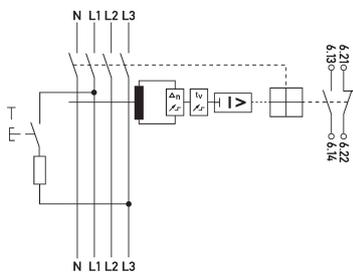
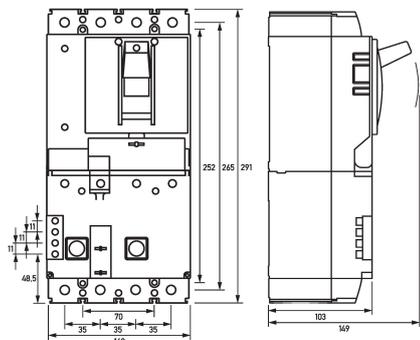
Technical Data	DFL 8 ***-4/X-A
min. Operating voltage range of test circuit	280 V
max. Operating voltage range of test circuit	759 V
Selectivity adjustable	true
Response delays at $2 \cdot I_{\Delta n}$	Adjustment range I: 60 ms ... 120 ms, Adjustment range II: 150 ms ... 250 ms, Adjustment range III: 300 ms ... 420 ms, Adjustment range IV: 450 ms ... 600 ms
Adjustment range of overload tripping	0.8 ... 1
Adjustment range of short-circuit tripping	6 ... 10
Power dissipation P_v release	Refer to the individual product reference, data sheet available on request
Rated operation short-circuit disconnecting capacity I_{cs}	85 kA at Rated operation short-circuit disconnecting capacity I_{cs} (240 V AC); 50 kA at Rated operation short-circuit disconnecting capacity I_{cs} (400/415 V AC); 35 kA at Rated operation short-circuit disconnecting capacity I_{cs} (440 V AC); 25 kA at Rated operation short-circuit disconnecting capacity I_{cs} (525 V AC) 5 kA at Rated operation short-circuit disconnecting capacity I_{cs} (690 V AC)
Rated short-circuit disconnecting capacity limit I_{cu}	85 kA at Rated short-circuit disconnecting capacity limit I_{cu} (240 V AC); 50 kA at Rated short-circuit disconnecting capacity limit I_{cu} (400/415 V AC); 35 kA at Rated short-circuit disconnecting capacity limit I_{cu} (440 V AC); 25 kA at Rated short-circuit disconnecting capacity limit I_{cu} (525 V AC) 20 kA at Rated short-circuit disconnecting capacity limit I_{cu} (690 V AC)
Rated short-circuit connection and disconnection capacity I_{dm}	85 kA at Rated short-circuit connection and disconnection capacity I_{dm} (240 V AC); 50 kA at Rated short-circuit connection and disconnection capacity I_{dm} (400/415 V AC); 35 kA at Rated short-circuit connection and disconnection capacity I_{dm} (440 V AC); 25 kA at Rated short-circuit connection and disconnection capacity I_{dm} (525 V AC) 20 kA at Rated short-circuit connection and disconnection capacity I_{dm} (690 V AC)
Operating voltage (AC)	690 V (max. 759 V)
Operating frequency	50 Hz
Type	Display Output state Operating lever (black) Load circuit
Specification	Load switch contact
Rated voltage (AC)	400 V, 690 V
Tolerance of rated voltage	max. 10 %
Rated current (AC)	Refer to the individual product reference, data sheet available on request
Surge current strength	5 kA
Rated impulse withstand voltage	8 kV
Rated frequency	50 Hz
Electrical endurance AC-1	7500 Schaltspiele
short-circuit backup-fuse SCPD	Refer to the individual product reference, data sheet available on request
Back-up fuse type	gG
Back-up fuse (textual)	only required if the short-circuit current to be expected at the installation location exceeds the switching capacity of the circuit-breaker
Overvoltage class	III Auxiliary switch
Specification	Switching contact
Rated insulation voltage	500 V
rated impulse withstand voltage	6 kV
Allowed utilization category	AC-15, DC-13
Rated current (AC-15)	6 A (230 V); 4 A (400 V) 2 A (500 V)
Rated current (DC-13)	3 A (24 V); 0.8 A (110 V) 0.3 A (220 V)
Rated short-circuit disconnecting capacity limit I_{cu}	85 kA at Rated short-circuit disconnecting capacity limit I_{cu} (240 V AC); 50 kA at Rated short-circuit disconnecting capacity limit I_{cu} (400/415 V AC); 35 kA at Rated short-circuit disconnecting capacity limit I_{cu} (440 V AC); 25 kA at Rated short-circuit disconnecting capacity limit I_{cu} (525 V AC) 20 kA at Rated short-circuit disconnecting capacity limit I_{cu} (690 V AC)

Technical Data	DFL 8 ***-4/X-A
Rated operation short-circuit disconnecting capacity I _{cs}	85 kA at Rated operation short-circuit disconnecting capacity I _{cs} (240 V AC); 50 kA at Rated operation short-circuit disconnecting capacity I _{cs} (400/415 V AC); 35 kA at Rated operation short-circuit disconnecting capacity I _{cs} (440 V AC); 25 kA at Rated operation short-circuit disconnecting capacity I _{cs} (525 V AC) 5 kA at Rated operation short-circuit disconnecting capacity I _{cs} (690 V AC)
Rated short-circuit connection and disconnection capacity I _{dm}	85 kA at Rated short-circuit connection and disconnection capacity I _{dm} (240 V AC); 50 kA at Rated short-circuit connection and disconnection capacity I _{dm} (400/415 V AC); 35 kA at Rated short-circuit connection and disconnection capacity I _{dm} (440 V AC); 25 kA at Rated short-circuit connection and disconnection capacity I _{dm} (525 V AC) 20 kA at Rated short-circuit connection and disconnection capacity I _{dm} (690 V AC)
	Box terminal top and bottom (Load circuit)
Neutral conductor position	left
Protection against direct contact	finger-safe and safe for back-of-hand
Allowed types of wires	Aluminium conductors, Copper conductors, massive conductors, flexible conductors, stranded conductors
Clamping area	4 mm ² ... 185 mm ²
Connection C1 Maximum number of conductors per terminal	2
Cross section solid	1-wire: 4 mm ² ... 16 mm ² ; 2-wire: 4 mm ² ... 16 mm ²
Cross section stranded	1-wire: 25 mm ² ... 185 mm ² ; 2-wire: 25 mm ² ... 70 mm ²
Tightening torque	max. 14 Nm
	Screw-type terminal left (Auxiliary switch)
Protection against direct contact	finger-safe and safe for back-of-hand
Clamping area	0.75 mm ² ... 2.5 mm ²
Connection C2 Maximum number of conductors per terminal	2
Cross section solid	1-wire: 0.75 mm ² ... 2.5 mm ² ; 2-wire: 0.75 mm ² ... 1.5 mm ²
Connecting capacity flexible	2-wire: 0.75 mm ² ... 1.5 mm ²
Cross section flexible with ferrule	0.75 mm ² ... 2.5 mm ²
Cross section stranded	1-wire: 0.75 mm ² ... 2.5 mm ² ; 2-wire: 0.75 mm ² ... 1.5 mm ²
Tightening torque	max. 0.8 Nm
	General data
Operating position	tilted 90°, vertical
max. Operating altitude above MSL	2000 m
Mechanical endurance	min. 2000 switching cycles
Electrical endurance	min. 2000 switching cycles
Surrounding atmosphere	normal environmental conditions
Storage temperature	-25 °C ... 70 °C
Ambient temperature	-25 °C ... 70 °C
Climate resistance	constant as per IEC 60068-2-78, cyclical as per IEC 60068-2-30
Shock resistance	20 g / 20 ms Duration
Fatigue limit	1,0 g (f = 2 - 100 Hz) (IEC 60068-2-6)
Housing type	wall-mounted housing
Mounting type	Wall mounting
Protection class	IP20 (installed: IP40)
sealable	true
Width	140 mm
Height	291 mm
Depth	103 mm
Installation depth	149 mm
Design requirements/Standards	EN 60947-2, EN 60947-2 Appendix B, VDE 0660-101

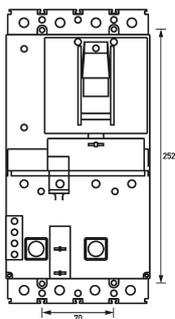
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Degree of pollution according to EN 60664	3

Dimensions

Wiring example



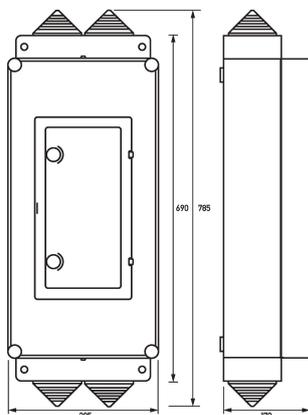
Wiring diagram



Dimensional drawing Group view

STEP file

Dimensional drawing Drilling template



DFL8 Enclosure