

UK Technical Data 03

DFL 8 ***-4/0,03-B SK 400V 50HZ

AC/DC sensitive type B with fire protection for frequencies < 1kHz

Residual current protection range < 150kHz

symbolic image



Function

Circuit-breakers with adjustable thermal and magnetic trips + integral residual current protection(CBR) with 30 mA fixed 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 400v 50Hz.

The 30 mA version has a fixed characteristic as per EN 60947-2 Appendix B, to provide additional protection in accordance with 415.1.

AC/DC sensitive type B CBRs detect smooth DC residual currents as well as all other type B residual currents as per IEC 60755. The operating voltage required for this is taken from the mains supply ≥ 50 V. Type A residual currents are detected regardless of the mains voltage. BSK and BNK CBRs detect residual currents up to 150kHz. This wide frequency range for residual current detection meets and provides additional levels of protection based on the design standards for type B residual currents. The CBR BSK tripping current frequency response characteristic is designed so that leakage currents with high frequencies, such as in the clock frequency range for inverters, as opposed to the rated supply frequency are detected at a higher level. Undesired trips due to leakage currents at higher frequencies can therefore be avoided with the correct association of the inverter equipment. Type BSK 30 mA offers fire protection for residual currents with frequencies up to 1 kHz. Type BNK 30 mA provides fire protection over the entire tripping frequency range up to 150 kHz.

Features

Fixed rated residual current of 30 mA, detection of smooth DC residual currents as well as all other type B residual currents. Rated currents from 100 A to 250 A, four-pole.

Rated voltage 400v 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-in connected to the 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.

Type B CBRs are suitable for protecting systems with electronic equipment that is not galvanically isolated from the mains at its inputs: Refer to BS 7671 - 531.3.3 Types of RCD.

Accessories

Housings N-7 / DFL8 Enclosure - Insulated IP54

Technical Data

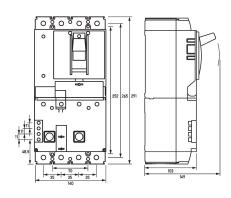
Technical Data	DFL 8 ***-4/0,03-B SK
Series	DFL 8 B SK
Number of poles	4
Residual current type	В

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Operating frequency Internal consumption 2.5 W 3 W Display Output state Type Operating lever (black) Load circuit Specification Load switch contact Rated voltage (AC) Tolerance of rated voltage Rated current (AC) Refer to the individual product reference, data sheet available on request Surge current strength Stated impulse withstand voltage Rated impulse withstand voltage Rated frequency So Hz Electrical endurance AC-1 Short-circuit backup-fuse SCPD Refer to the individual product reference, data sheet available on request Surge current strength Specification Specificat	Rated short-circuit connection and disconnection capacity I∆m	50 kA at Rated short-circuit connection and disconnection capacity Idm (400/415 V
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Display Output state Type Operating lever (black) Load circuit Specification Load switch contact Rated voltage (AC) 230 V, 400 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 4 kV Rated frequency 50 Hz Electrical endurance AC-1 10000 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	Operating frequency	50 Hz
Type Operating lever (black) Load circuit Specification Load switch contact Rated voltage (AC) 230 V, 400 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 4 kV Rated frequency 50 Hz Electrical endurance AC-1 10000 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	Internal consumption	2.5 W 3 W
Load circuit Specification Load switch contact Rated voltage (AC) 230 V, 400 V Tolerance of rated voltage Rated current (AC) Refer to the individual product reference, data sheet available on request Surge current strength S kA Rated impulse withstand voltage A kV Rated frequency So Hz Electrical endurance AC-1 10000 Schaltspiele short-circuit backup-fuse SCPD Refer to the individual product reference, data sheet available on request Back-up fuse type G 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		Display Output state
Specification Load switch contact Rated voltage (AC) Tolerance of rated voltage Rated current (AC) Refer to the individual product reference, data sheet available on request Surge current strength S kA Rated impulse withstand voltage Rated frequency So Hz Electrical endurance AC-1 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) Overvoltage class III	Туре	Operating lever (black)
Rated voltage (AC) Tolerance of rated voltage Refer to the individual product reference, data sheet available on request Surge current strength S kA Rated impulse withstand voltage Rated frequency So Hz Electrical endurance AC-1 Short-circuit backup-fuse SCPD Refer to the individual product reference, data sheet available on request So Hz Back-up fuse type GG Back-up fuse (textual) Overvoltage class III		Load circuit
Tolerance of rated voltage Rated current (AC) Refer to the individual product reference, data sheet available on request Surge current strength 5 kA Rated impulse withstand voltage 4 kV Rated frequency 50 Hz Electrical endurance AC-1 10000 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	Specification	Load switch contact
Rated current (AC) Refer to the individual product reference, data sheet available on request Surge current strength 5 kA Rated impulse withstand voltage 4 kV Rated frequency 50 Hz Electrical endurance AC-1 10000 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	Rated voltage (AC)	230 V, 400 V
Surge current strength Rated impulse withstand voltage Rated frequency So Hz Electrical endurance AC-1 short-circuit backup-fuse SCPD Refer to the individual product reference, data sheet available on request Back-up fuse type 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	Tolerance of rated voltage	max. 10 %
Rated impulse withstand voltage Rated frequency So Hz Electrical endurance AC-1 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	Rated current (AC)	Refer to the individual product reference, data sheet available on request
Rated frequency Electrical endurance AC-1 short-circuit backup-fuse SCPD Refer to the individual product reference, data sheet available on request Back-up fuse type 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	Surge current strength	5 kA
Electrical endurance AC-1 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	Rated impulse withstand voltage	4 kV
short-circuit backup-fuse SCPD Refer to the individual product reference, data sheet available on request Back-up fuse type 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	Rated frequency	50 Hz
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	Electrical endurance AC-1	10000 Schaltspiele
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	short-circuit backup-fuse SCPD	Refer to the individual product reference, data sheet available on request
installation location exceeds the switching capacity of the circuit-breaker Overvoltage class III	Back-up fuse type	
	Back-up fuse (textual)	
	Overvoltage class	III
Auxiliary switch		Auxiliary switch
Specification Switching contact	Specification	Switching contact
Rated insulation voltage 500 V	Rated insulation voltage	500 V
rated impulse withstand voltage 6 kV	rated impulse withstand voltage	6 kV
Allowed utilization category AC-15, DC-13	Allowed utilization category	AC-15, DC-13

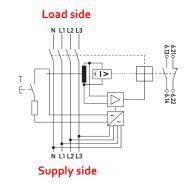
Technical Data	DFL 8 ***-4/0,03-B SK
Rated current (AC-15)	6 A (230 V); 4 A (400 V) 2 A (500 V)
Rated current (DC-13)	3 A (24 V); 0.8 A (110 V) 0.3 A (220 V)
Rated short-circuit disconnecting	85 kA at Rated short-circuit disconnecting capacity limit lcu (240 V AC);
capacity limit lcu	50 kA at Rated short-circuit disconnecting capacity limit lcu (400/415 V AC) 35 kA at Rated short-circuit disconnecting capacity limit lcu (440 V AC)
Rated operation short-circuit	85 kA at Rated operation short-circuit disconnecting capacity lcs (240 V AC);
disconnecting capacity Ics	50 kA at Rated operation short-circuit disconnecting capacity lcs (400/415 V
	AC) 35 kA at Rated operation short-circuit disconnecting capacity Ics (440 V AC)
Rated short-circuit connection and disconnection capacity $I\Delta m$	85 kA at Rated short-circuit connection and disconnection capacity Idm (240 V AC); 50 kA at Rated short-circuit connection and disconnection capacity Idm (400/415 V
	AC) 35 kA at Rated short-circuit connection and disconnection capacity Idm (440 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 mm² 185 mm²
Connection C1 Maximum number of conductors per terminal	2
Cross section solid	1-wire: 4 mm² 16 mm²; 2-wire: 4 mm² 16 mm²
Cross section stranded	1-wire: 25 mm² 185 mm²; 2-wire: 25 mm² 70 mm²
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 mm² 2.5 mm²
Connection C ₂ 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 mm² 2.5 mm²
Cross section stranded	1-wire: 0.75 mm² 2.5 mm²; 2-wire: 0.75 mm² 1.5 mm²
Tightening torque	max. o.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

Technical Data	DFL 8 ***-4/o,o3-B SK
Depth	103 mm
Installation depth	149 mm
Design requirements/Standards	DIN IEC 60755, EN 60947-2, EN 60947-2 Appendix B, VDE 0660-101
Degree of pollution according to EN 60664	3

Dimensions

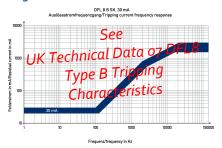


Wiring example

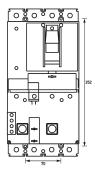


Wiring diagram

Diagrams



Characteristic B SK 30 mA



Dimensional drawing Group view

STEP file

Dimensional drawing Drilling template

