



symbolic image

DATA SHEET

DLS 6i K20-3

for industrial facilities, K characteristics, 10 kA

Article number 09916654



[Internetlink](#)



Function

An important stipulation of DIN VDE 0100 is to protect cables, lines and installation devices from overload and short-circuits. This requirement can be met using miniature circuit-breakers (MCBs). In industrial installations and also in commercial buildings, they often take on additional protection of equipment and devices where there are usually higher requirements than when used in residential buildings. Miniature circuit-breakers utilise both the magnetic and heat effect of the electrical current. If the current jumps to a value that is too high when a short-circuit occurs, the MCB interrupts the circuit using the magnetic field of an energised coil. The heat that develops when there is continuous overload causes the bimetal to warp, which trips the breaker. The miniature circuit-breaker series DLS 6 has a wide selection of different types for a number of application areas. In addition to switches for residential and purpose-built buildings, it also contains switches for industrial applications. The compact design provides lots of space for the wiring and the large clamping area, as well as the option of using conventional wiring rails for easy processing. The series also has a large, folding label window and a clearly labelled display for the operating status. A number of additional devices, such as undervoltage or operating current trips and auxiliary and fault indicator switches, make universal use of the miniature circuit-breakers possible. The DLS 6i design is especially suitable for use in industrial facilities, for example, due to its high rated switching capacity of 10 kA. The large selection of rated currents and tripping characteristics also allow the use of the miniature circuit-breaker in many applications. Miniature circuit-breakers with characteristic K are especially suitable for fuse-protecting power circuits (motor and transformer load circuits) with high switch-on currents, as their short-circuit trip is eight to twelve times the rated current.

Features

high rated switching capacity for use in industrial systems, Screw terminals with strain-relief clamps with wide terminal cross-section range for rail and line wiring on both connection sides, Designs with 1 to 4 protected poles, special quick fastening for removal of multiple miniature circuit-breakers from the bottom or top interconnection, large, folding label window for a secure hold and protection of the label, use of conventional wiring rails, ON/OFF switch position indicator on the switch toggle, accessories retro-fittable on the right, labelling software free of charge

Mounting

quick fastening to mounting rail, any installation position

Applications

suitable for use in power supplies for industrial facilities and purpose-built buildings or buildings for commercial use

Accessories

Software DBS, Restart locking facilities DEASS, Auxiliary Switches DHi, Fault signalling switches DHi-S, Operating current trips DASA, Documentations

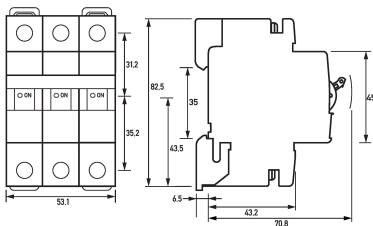
Technical Data

Technical Data	DLS 6i K20-3
Series	DLS 6i
Number of poles	3
Tripping characteristic	K
Supply side	arbitrary
Adjustment range of overload tripping	1.05 ... 1.2
Adjustment range of short-circuit tripping	8 ... 12

Technical Data	DLS 6i K20-3
Tripping factor over frequency band	1.5 at DC; 1.1 at 100 Hz; 1.2 at 200 Hz; 1.3 at 300 Hz; 1.4 at 400 Hz
Test current factor tripping electromagnetic	12
Test current multiplier, trip, thermal	1.2
Test current factor retaining electromagnetic	8
Test current factor retaining thermal	1.05
Reference temperature thermal release	20 °C
Reference temperature thermal release (Variance)	5 °C
Isolation class	C at 250 V AC; B at 400 V AC
	Load circuit
Specification	Load switch contact
Rated voltage (AC)	230 V, 400 V (12 V ... 400 V)
Rated voltage (DC)	125 V (12 V ... 125 V)
Rated current (AC)	20 A
Rated insulation voltage	2 kV
Rated impulse withstand voltage	4 kV
Rated frequency	50 Hz (16.67 Hz ... 60 Hz)
Current heat loss per current path	2.5 W
short-circuit backup-fuse SCPD	125 A
Back-up fuse type	gL, gG
Back-up fuse (textual)	Safety fuse as per DIN EN 0636
Overtoltage class	III
	Strain relief clamp top (Load circuit)
Protection against direct contact	DGUV V2, VDE 0660-514, finger-safe and safe for back-of-hand
Connection C1 Maximum number of conductors per terminal	2 (conductors of same type and cross-section)
Cross section solid	1-wire: 0.5 mm ² ... 25 mm ²
Connecting capacity flexible	1-wire: 1 mm ² ... 16 mm ²
Cross section flexible with ferrule	0.5 mm ² ... 16 mm ²
Cross section stranded	1-wire: 1.5 mm ² ... 25 mm ²
Tightening torque	max. 2.5 Nm
Thickness busbar	max. 3 mm
Thickness busbar cable lug (combined conductors, max)	2 mm
Cross section (busbar / busbar fork combined, max)	25 mm ²
	Strain relief clamp bottom (Load circuit)
Protection against direct contact	DGUV V2, VDE 0660-514, finger-safe and safe for back-of-hand
Connection C2 Maximum number of conductors per terminal	2 (conductors of same type and cross-section)
Cross section solid	1-wire: 0.5 mm ² ... 35 mm ²
Connecting capacity flexible	1-wire: 1 mm ² ... 25 mm ²
Cross section flexible with ferrule	0.5 mm ² ... 16 mm ²
Cross section stranded	1-wire: 1.5 mm ² ... 35 mm ²

Technical Data	DLS 6i K20-3
Tightening torque	max. 2.5 Nm
thickness busbar cable lug (combined conductors, max)	2 mm
Cross section (busbar / busbar fork combined, max)	35 mm ²
thickness busbar	max. 3 mm
	General data
Operating position	any
Mechanical endurance	min. 20000 switching cycles
Storage temperature	-40 °C ... 70 °C
Ambient temperature	-25 °C ... 55 °C
Climate resistance	damp/heat: constant as per DIN EN 60068-2-78, cyclical as per DIN EN 60068-2-30
Shock resistance	25 g / 11 ms Duration
Vibration resistance	15 g
Housing type	Distributor housing
Mounting type	Mounting rail
Housing material	Thermoplastic resin
Protection class	IP20
sealable	true
Width	53.1 mm
Height	83 mm
Depth	75.2 mm
Installation depth	68.7 mm
Width (modules)	3
Design requirements/Standards	EN 60947-2, VDE 0660-101
Power limitation category	3
Degree of pollution according to EN 60664	2

Dimensions



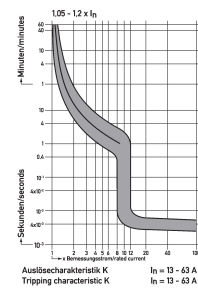
Dimensional drawing Group view

Wiring example



Wiring diagram

Diagrams



Characteristic Char. K