



DATA SHEET

Article number: 09912012

miniature circuit-breakers

DLS 6hdc B_{1,6-1}

for DC circuits, B-characteristic, 6 kA



Function

The task of miniature circuit breakers is to automatically disconnect circuits in order to protect lines and connected devices. After disconnection, they can be manually reactivated without the fuse sets having to be replaced, for example. Each of our miniature circuit breakers is equipped with a trip-free mechanism, which guarantees safe deactivation even if, for example, a switching knob is mechanically blocked. A key requirement of DIN VDE 0100 is the protection of cables, conductors, and installation devices against overload and short circuit. This can be achieved through the use of miniature circuit breakers (MCBs). In industrial installations as well as in commercial applications, they often also provide protection for equipment and devices, which generally results in higher requirements than in residential installations. Miniature circuit breakers utilize both the magnetic and thermal effects of electric current: if the current rises very rapidly to an excessive level in the event of a short circuit, the MCB interrupts the circuit via the magnetic field of an energized coil. In the case of a sustained overload, the resulting heat causes deformation of the bimetal, triggering the switch. The DLS 6 miniature circuit breaker series is characterized by a wide range of different types for diverse applications. In addition to breakers for residential and commercial buildings, it also includes breakers for industrial use. The low overall height provides ample space for wiring, while the large terminal capacity, together with the option of using standard busbars, ensures easy installation. The series also features a large, hinged labeling window for labels and a clearly marked status indication. A wide range of accessories, such as shunt trips, auxiliary switches, and alarm switches, enables universal use of the miniature circuit breakers. The DLS 6hdc variant for DC networks features a rated switching capacity of 6 kA designed for distributor and final circuits, and a large selection of rated currents in characteristics B and C. Switches with tripping characteristic B ensure the standard protection for lighting and socket circuits.

Features

For use in DC networks, Rated switching capacity 6 kA, Strain-relief clamps with wide clamp cross section area for rail and cable wiring on both connector sides, quick fastening for removal of multiple miniature circuit-breakers from the bottom 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 DC power supplies for residential and purpose-built buildings or buildings for commercial use.

Notes

Bearing of the ambient temperature on thermal tripping: lowering of the current values for higher ambient temperature and increasing for lower temperatures by about 5% for every 10°C temperature difference, For 2-pole devices, note that the poles must be connected in series.

Accessories

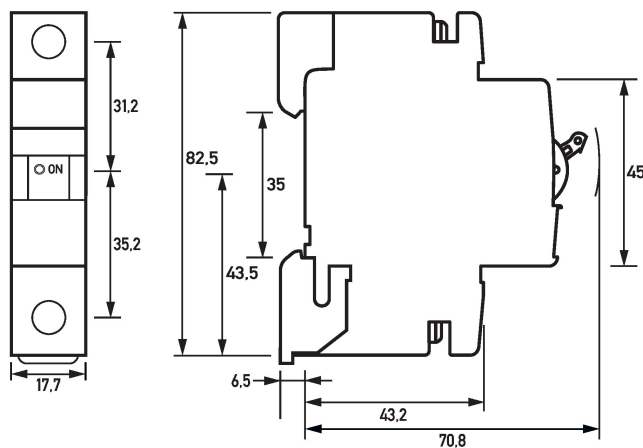
terminal caps KA, software DBS, restart locks DEASS, auxiliary switches DHi, trip-indicating auxiliary contact DHi-S, operating current trip DASA, documentation

Technical Data

Series	DLS 6hdc
Number of poles	1
Tripping characteristic	B
Supply side	L or R (note the polarity)
Overload tripping factor	1.13 ... 1.45
Adjustment range of short-circuit tripping	4 ... 7
Test current factor tripping electromagnetic	7
Test current factor retaining electromagnetic	4
Reference temperature thermal release	30 °C

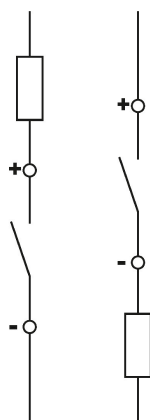
	load circuit
Specification	load disconnect contact
Rated voltage (DC)	125 V
Rated current (DC)	1.6 A
Rated short-circuit current	6 kA
Rated insulation voltage	2000 V
Rated impulse withstand voltage	4 kV
Rated frequency	0 Hz
Current heat loss per current path	1.8 W
	screw terminals with strain-relief clamp top (load circuit)
Protection against direct contact	DGUV V2, VDE 0660-514, finger and back-of-hand proof
Allowed types of wires	copper conductor
max. Connection C1 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	2 Nm ... 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
	screw terminals with strain-relief clamp bottom (load circuit)
Protection against direct contact	DGUV V2, VDE 0660-514, finger and back-of-hand proof
Connection C2 max. 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
Tightening torque	2 Nm ... 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	optional
mechanical endurance	min. 20000 switching cycles
Storage temperature	-40 °C ... 70 °C
Ambient temperature	-25 °C ... 70 °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 acc. to DIN EN 60068-2-59 during a load with I1
Housing type	distribution board housing
Installation type	Mounting rail (35 mm)
Housing material	thermoplastic
Protection class	IP20
sealable	true
Width	17.7 mm
Height	82.5 mm
Depth	74 mm
Installation depth	68 mm
Module widths	1
Weight	0.12 kg
Design requirements/Standards	IEC 60898-3, VDE 0641-13
Degree of pollution	2

Dimensions



Dimensional drawing DLS 6hdc, B-characteristic, one-pole (Group view)

Wiring example



Wiring diagram DLS 6hdc, B-characteristic, one-pole