

ELR HDC-PT-24/650/55-IOL - DC semiconductor circuit breaker



1368127

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DC circuit breaker for protecting, monitoring, and switching high DC loads, intermediate circuit precharging; can be parameterized, 0 V DC ... 800 V DC, up to 55 A, shutdown in the event of short circuit in <math><10 \mu\text{s}</math> thanks to hybrid technology, integrated bus communication

Commercial data

Item number	1368127
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	DK7811
GTIN	4063151723149
Weight per piece (including packing)	1,320 g
Weight per piece (excluding packing)	1,320 g
Customs tariff number	85371098
Country of origin	DE

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Technical data

Product properties

Product type	Circuit breakers
Product family	CONTACTRON

Insulation characteristics

Overvoltage category	III
Pollution degree	2

Electrical properties

Selectivity category	A (IEC/EN 60947-2)
Rated insulation voltage	440 V DC
Rated impulse withstand voltage	6 kV
Rated service short-circuit breaking capacity I_{cs}	100 kA (650 V DC)
Rated ultimate short-circuit breaking capacity I_{cu}	100 kA (650 V DC)
Precharging	1 s (1 mF) ≤ 15 A
Maximum power dissipation for nominal condition	55 W
Measuring range	0 V ... 900 V ± 2 %
Measuring range	-90 A ... 90 A ± 2 %
Messbereich_Leistung	-75 kW ... 75 kW ± 4 %

Supply

Rated control supply voltage U_s	24 V DC
Control supply voltage range U_v	19.2 V DC ... 26 V DC
Rated control supply current I_s (Standby)	40 mA
Rated control supply current I_s (Not activated)	120 mA
Rated control supply current I_s (Activated)	≤ 210 mA
Protective circuit	Surge protection Reverse polarity protection

Input data

Control input (ON)

Rated actuating voltage U_c	24 V DC
Triggering voltage range	-3 V DC ... 30 V DC
Switching threshold (0 signal)	9.6 V
Switching threshold (1 signal)	19.2 V
Actuating current I_e	5 mA
Switch-off time	< 5 ms
Switch-on time (without precharging)	400 ms

Output data

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Control outputs (STAT, ERR)

Output voltage (0 signal)	$\leq 1 \text{ V}$
Output voltage (1 signal)	$U_V - 1 \text{ V}$
Output current	$\leq 300 \text{ mA}$
Protective circuit	Short-circuit-proof

Power output

Number of positions	2
Operating voltage range	0 V DC ... 810 V DC
Rated voltage U_n (Conductor/conductor)	650 V DC
Rated operating voltage U_g (Systems with line conductor grounding and IT systems)	440 V DC
Rated operating voltage U_g (Center-grounded systems)	325 V DC (Conductor-PE)
	650 V DC (Conductor-Conductor)
Rated current I_n	55 A (40 °C)
Current setting I_r (dependent overload tripping)	5 A ... 55 A
Current setting I_{oc} (independent overcurrent shutdown)	10 A ... 90 A
Tripping time t_r (dependent overload tripping)	can be parameterized
Tripping time t_{oc} (independent overcurrent shutdown)	0.2 s
Tripping current I_{sc} (Short-circuit shutdown (without delay))	200 A
Switch-on delay	can be parameterized

Connection data

Control circuits

Connection method	Push-in connection
Stripping length	8 mm
Conductor cross-section rigid	0.2 mm ² ... 1.5 mm ²
Conductor cross-section flexible	0.2 mm ² ... 1.5 mm ²
Conductor cross-section AWG	24 ... 16

Load circuit

Connection method	Push-in connection
Stripping length	18 mm
Conductor cross-section rigid	0.75 mm ² ... 16 mm ²
Conductor cross-section flexible	0.75 mm ² ... 16 mm ²
Conductor cross-section AWG	20 ... 6

Interfaces

Communication: IO-Link

Communication protocol	IO-Link
Specification	1.1.3
Transmission speed	230400 baud

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Cycle time	2 ms
Amount of process data	12 Byte (Input data)
	1 Byte (Output data)
Current consumption	10 mA

Dimensions

Item dimensions

Width	84 mm
Height	203 mm
Depth	117 mm

Drill hole

Diameter	5.6 mm
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Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-20 °C ... 60 °C (non-condensing)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Altitude	≤ 2000 m

EMC data

Impulse withstand voltage (StKr/Bus)	1.5 kV
Impulse withstand voltage (HStrKr/StKr)	8 kV
Impulse withstand voltage (HStrKr/Bus)	8 kV

Standards and regulations

Standards/regulations	IEC 60947-2
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Mounting

Mounting type	DIN rail mounting
	Direct mounting

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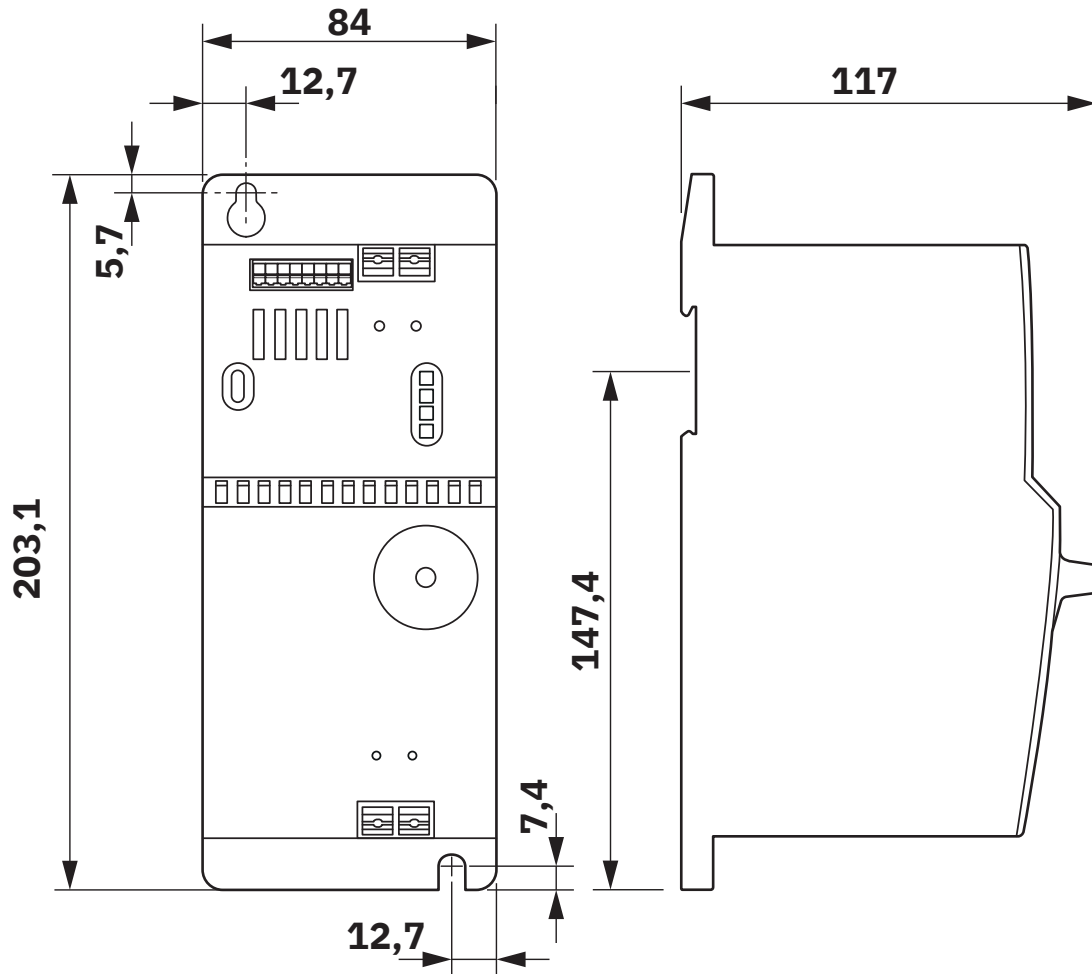


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Drawings

Dimensional drawing

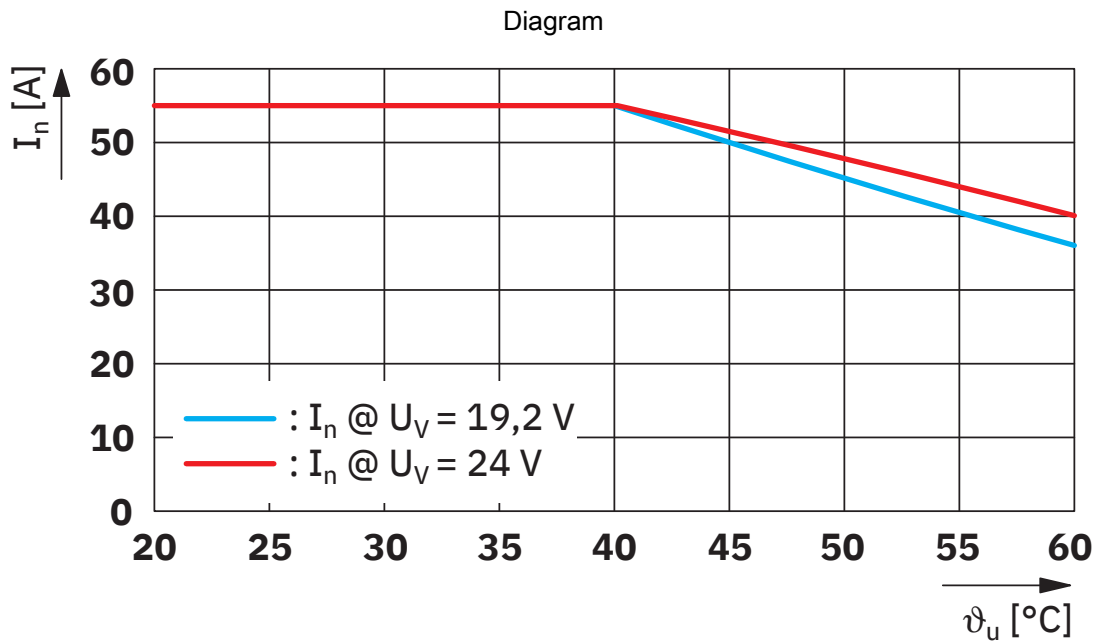


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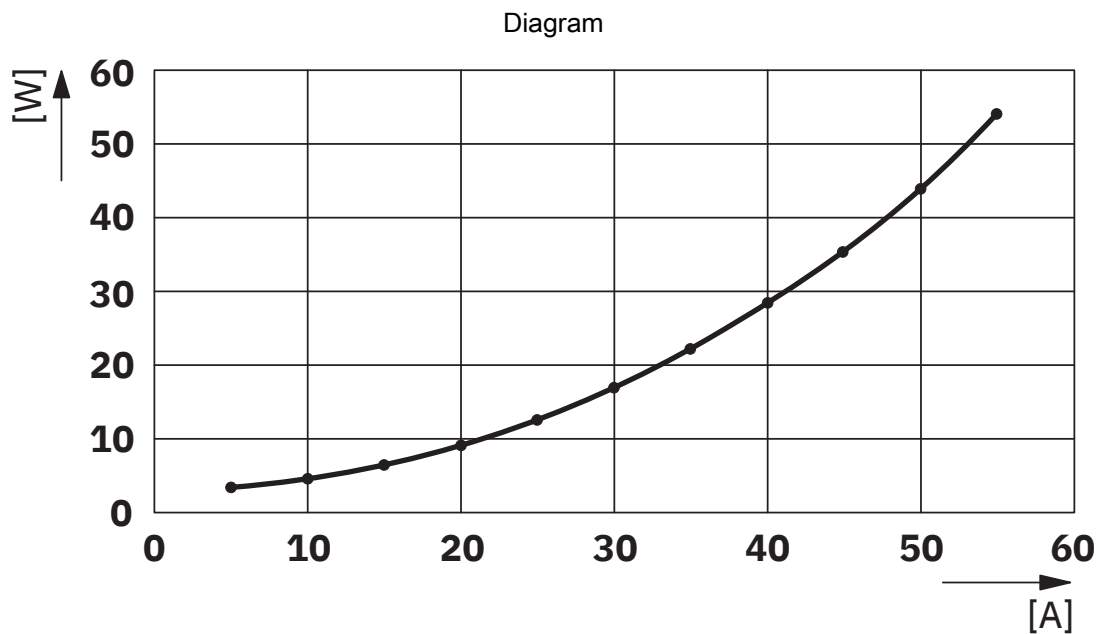


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Derating curve



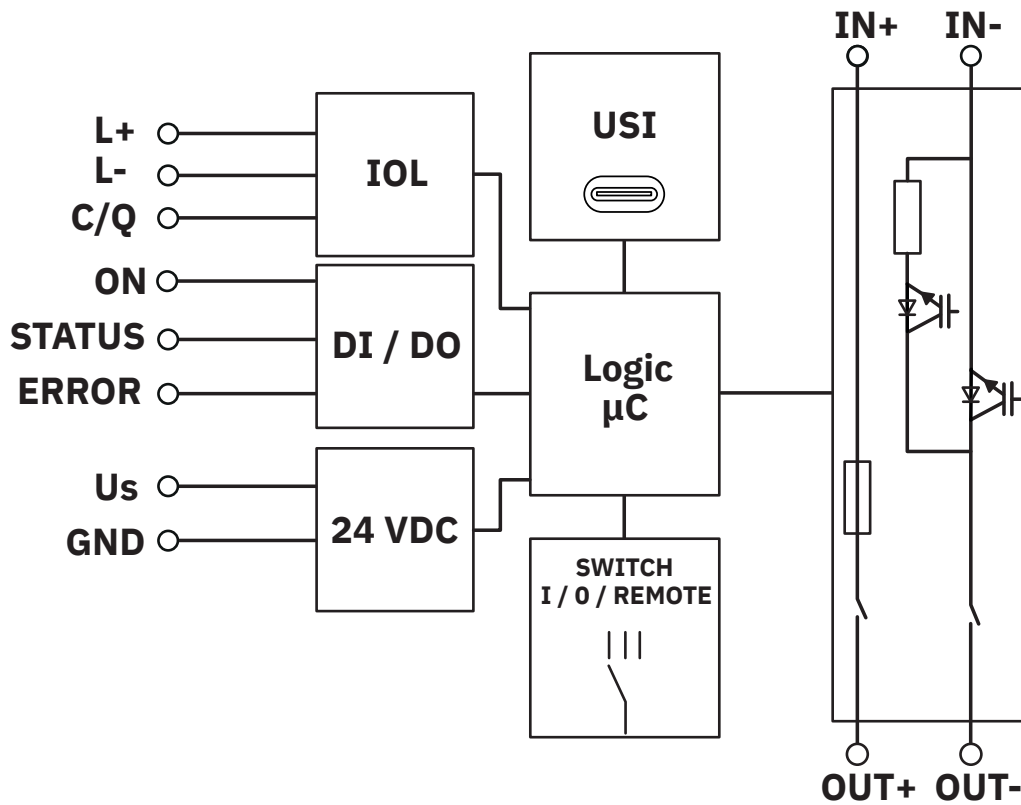
Power dissipation depending on the operating current

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Block diagram



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Classifications

ECLASS

ECLASS-13.0	27370409
ECLASS-15.0	27370409

ETIM

ETIM 10.0	EC000228
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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c), 7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
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