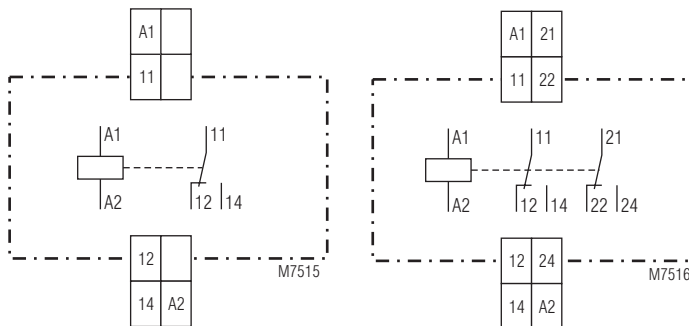


- According to IEC/EN 60 255, IEC/EN 61 810-1
- Optionally safe separation according to IEC/EN 61 140, IEC/EN 60 947-1, 6 kV/2
 - between coil and contacts
 - between the two contacts
- As option with reduced power consumption
- Optionally for switching of low loads
- 1 or 2 changeover contacts
- For AC/DC 12 ... 240 V
- For 2-wire proximity sensors
- LED indicator
- Width 22.5 mm

Circuit Diagrams



ML 3059.11

ML 3059.12
ML 3059.12/100
ML 3059.12/200

Connection Terminals

Terminal designation	Signal description
A1(+), A2	Supply voltage
11, 12, 14; 21, 22, 24	Changeover contacts

Approvals and Markings



Applications

- Link between control and power levels
- For separating potentials

Indicators

LED: On, when the relay is active

Technical Data

Input

Nominal voltage U_N:	AC/DC 12 ... 240 V
Voltage range:	AC 0.85 ... 1.1 U_N DC 0.9 ... 1.15 U_N
Permissible residual current:	≤ 5 mA
Nominal consumption:	DC 12 24 60 240 V 0.5 0.55 0.6 1.4 W
Nominal frequency:	50 ... 400 Hz
Frequency range:	± 5 %

Output

Contacts

ML 3059.11:	1 changeover contact
ML 3059.12:	2 changeover contacts
Operating time of contacts:	≤ 10 ms
Release time of contacts:	≤ 10 ms
Thermal current I_{th}:	5 A
Switching capacity to AC 15	
NO contact:	3 A / AC 230 V IEC/EN 60947-5-1
NC contact:	1 A / AC 230 V IEC/EN 60947-5-1
Electrical life to AC 15 at 3 A, AC 230 V:	5 x 10 ⁵ switching cycles
Permissible switching frequency:	6000 switching cycles / h
Short circuit strength max. fuse rating:	6 A gG / gL IEC/EN 60947-5-1
Mechanical life:	> 30 x 10 ⁶ switching cycles

Technical Data

General Data

Operating mode: Continuous operation

Temperature range

Operation: - 20 ... + 60 °C

Storage: - 20 ... + 60 °C

Relative air humidity: 93 % at 40 °C

Altitude: ≤ 2000 m

Clearance and creepage distances

Rated impulse voltage /

Pollution degree: 4 kV / 2 IEC 60664-1

EMC

Electrostatic discharge: 8 kV (air) IEC/EN 61000-4-2

HF-irradiation

80 MHz ... 1.0 GHz: 10 V / m IEC/EN 61000-4-3

1.0 GHz ... 2.5 GHz: 3 V / m IEC/EN 61000-4-3

2.5 GHz ... 2.7 GHz: 1 V / m IEC/EN 61000-4-3

Fast transients: 4 kV IEC/EN 61000-4-4

Surge voltages

between

wires for power supply: 2 kV IEC/EN 61000-4-5

between wire and ground: 4 kV IEC/EN 61000-4-5

HF wire guided: 10 V IEC/EN 61000-4-6

Interference suppression: Limit value class B EN 55011

Degree of protection

Housing: IP 40 IEC/EN 60529

Terminals: IP 20 IEC/EN 60529

Housing:

Thermoplast with V0-behaviour according to UL subject 94

Vibration resistance:

Amplitude 0.35 mm frequency 10 ... 55 Hz IEC/EN 60068-2-6

20 / 60 / 04 IEC/EN 60068-1

Climate resistance:

Terminal designation:

EN 50005

Wire connection:

2 x 2.5 mm² solid or 2 x 1.5 mm² stranded wire with sleeve DIN 46228-1/-2/-3/-4

Insulation of wires or

sleeve length:

8 mm

Wire fixing:

Flat terminals with self-lifting clamping piece IEC/EN 60999-1

Fixing torque:

0.8 Nm

Mounting:

DIN rail IEC/EN 60715

Weight:

110 g

Dimensions

Width x height x depth: 22.5 x 81 x 98.5 mm

Standard Type

ML 3059 .12/100 AC/DC 12 ... 240 V

Article number: 0037230

- Also for switching of low loads
- Output: 2 changeover contacts
- Nominal voltage U_N : AC/DC 12 ... 240 V
- Width: 22.5 mm

For switching of low loads with 2 ... 60V, 2 ... 300mA, 10 mW ... 12 W / 10 mVA ... 12 VA. The output contacts have the same switching capacity as the standard version. As the gold plating of the contacts will burn off with this switching performance, the device is not longer suitable for switching of low loads.

Safe separation according to IEC/EN 61140, IEC/EN 60947-1, 6 kV/2

- Between coil and contacts
- Between the two contacts

Variants

ML 3059.11: Without gold plated contacts, with safe separation

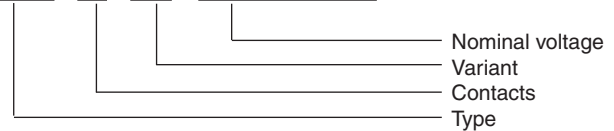
ML 3059.12: Without gold plated contacts, without safe separation

ML 3059.12/100: With gold plated contacts 5 µm, with safe separation

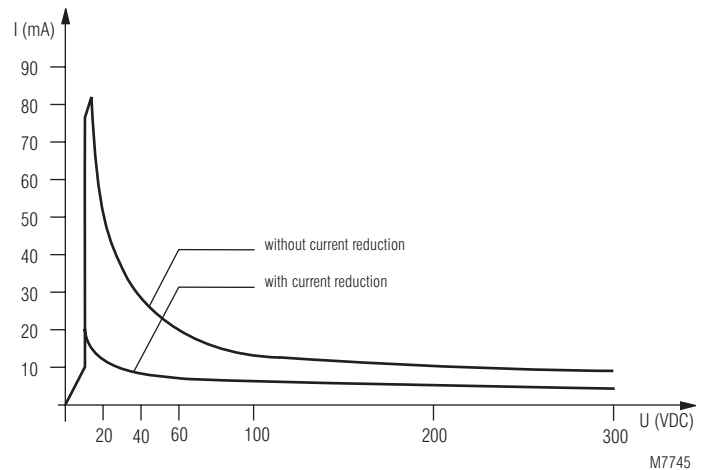
ML 3059.12/200: Version like ML 3059.12/100 with reduced nominal consumption DC 12 V / 0.25 W; DC 24 V / 0.25 W; DC 60 V / 0.45 W; DC 240 V / 1 W Recovery time: < 50 ms

Ordering example for variants

ML 3059 .12 /100 AC/DC 12 ... 240 V



Characteristic



Permissible contact current of ML 3059.12/200 in relation to the auxiliary voltage.