



## &lt; HLR SOLID STATE RELAYS

360052



Overview



Specifications



Resources

Questions be

General specifications &gt;

Features &amp; Functions &gt;

General &gt;

Climatic environmental conditions &gt;

Electromagnetic compatibility &gt;

Terminal capacities &gt;

Electrical rating &gt;

Short-circuit rating &gt;

Control circuit &gt;

Motor rating &gt;

Design verification &gt;

## GENERAL SPECIFICATIONS

## PRODUCT NAME

Eaton Moeller series HLR solid state relay

## CATALOG NUMBER

360052

## MODEL CODE

HLR50/1H(DC)230V

## EAN

4015081998197

## PRODUCT LENGTH/DEPTH

28.8 mm

## PRODUCT HEIGHT

58.2 mm

## PRODUCT WIDTH

44.8 mm

## PRODUCT WEIGHT

.06 kg

## COMPLIANCES

CE Marked  
RoHS Compliant

## CERTIFICATIONS

CE  
UL 508  
EAC  
CCC

## FEATURES & FUNCTIONS

### FUNCTIONS

Switching at zero-crossing

### ELECTRICAL CONNECTION TYPE FOR AUXILIARY- AND CONTROL-CURRENT CIRCUIT

Screw connection

### ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT

Screw connection

## GENERAL

### DEGREE OF PROTECTION

IP20

### FREQUENCY RATING

45 Hz - 65 Hz

### MOUNTING POSITION

Mount device in specified orientation and do not use heatsink

### NUMBER OF PHASES

1

### NUMBER OF PILOT LIGHTS

1

### OVERVOLTAGE CATEGORY

III

### POLLUTION DEGREE

2

### RATED IMPULSE WITHSTAND VOLTAGE (UIMP)

6 kV (1.2/50 µs)

### SERIES

HLR

## SHOCK RESISTANCE

15/11 g/ms (according to EN 50155, EN 61373)

### TYPE

Solid-state relay

## VIBRATION RESISTANCE

2 g/axis (2-100 Hz, IEC 60068-2-6, EN 50155)

### VOLTAGE TYPE

DC

## CLIMATIC ENVIRONMENTAL CONDITIONS

### ALTITUDE

0 - 1000 m (Above 1000 m derate linearly by 100 m up to a maximum of 2000 m)

**AMBIENT STORAGE TEMPERATURE - MIN** -40 °C

**AMBIENT STORAGE TEMPERATURE - MAX** 100 °C

### CLIMATIC PROOFING

95% relative humidity non-condensing at 40°C

**OPERATING TEMPERATURE - MIN** -40 °C

**OPERATING TEMPERATURE - MAX** 80 °C

## ELECTROMAGNETIC COMPATIBILITY

### AIR DISCHARGE

8 kV (according to IEC/EN 61000-4-2)

### BURST IMPULSE

Main: 2 kV, 5 kHz PC 1 (according to IEC/EN 61000-4-2)  
Control: 1 kV, 5 kHz PC 1 (according to IEC/EN 61000-4-2)

### CONTACT DISCHARGE

4 kV (according to IEC/EN 61000-4-2)

### ELECTROMAGNETIC FIELDS

10 V/m, 80 - 1000 MHz and 1.4 - 2.0 GHz, PC 1  
3 V/m, 2.0 - 2.7 GHz, PC 1

**IMMUNITY TO LINE-CONDUCTED  
INTERFERENCE**

10 V/m, 0.15 - 80 MHz, PC 1 (according to IEC)

**RADIO INTERFERENCE CLASS**

Class A

**TERMINAL CAPACITIES****TERMINAL CAPACITY (FLEXIBLE WITH  
FERRULE)**Main: 1 x 1-4 mm<sup>2</sup>, 2 x 1-4 mm<sup>2</sup>  
Control: 1 x 0.5-2.5 mm<sup>2</sup>, 2 x 0.5-2.5 mm<sup>2</sup>**TERMINAL CAPACITY (SOLID)**Main: 1 x 2.5-6 mm<sup>2</sup>, 2 x 2.5-6 mm<sup>2</sup>  
Control: 1 x 0.5-2.5 mm<sup>2</sup>, 2 x 0.5-2.5 mm<sup>2</sup>**TERMINAL CAPACITY (SOLID/STRANDED  
AWG)**Main: 1 x 14-10, 2 x 14-10  
Control: 1 x 18-12, 2 x 18-12**TERMINAL CAPACITY (STRANDED)**Main: 1 x 2.5-6 mm<sup>2</sup>, 2 x 2.5-6 mm<sup>2</sup>  
Control: 1 x 0.5-2.5 mm<sup>2</sup>, 2 x 0.5-2.5 mm<sup>2</sup>**TIGHTENING TORQUE**Main: 2.4 Nm (21.2 lb-in)  
Control: 0.5 Nm (4.4 lb-in)**SCREWDRIVER SIZE**Main: Pozidriv 2  
Control: Pozidriv 1**ELECTRICAL RATING****OPERATING VOLTAGE - MAX.**

265 V

**OPERATING VOLTAGE - MIN.**

24 V

**RATED OPERATIONAL CURRENT (IE) AT AC-  
1**

0 A

**RATED OPERATIONAL CURRENT (IE) AT AC-  
3**

0 A

**RATED OPERATIONAL CURRENT (IE) AT AC- 51** 50 A

**RATED OPERATIONAL CURRENT (IE) AT AC- 53A** 15 A

**RATED OPERATIONAL CURRENT (IE) AT AC- 53B** 0 A

**RATED OPERATIONAL VOLTAGE (UE) AT AC - MIN** 24 V

**RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX** 265 V

## SHORT-CIRCUIT RATING

**RATED CONDITIONAL SHORT-CIRCUIT CURRENT, TYPE 1, 600 Y/347 V** 65 kA

**RATED CONDITIONAL SHORT-CIRCUIT CURRENT (IQ), TYPE 2, 230 V** 10 kA

**RATED CONDITIONAL SHORT-CIRCUIT CURRENT (IQ), TYPE 2, 380 V, 400 V, 415 V** 10 kA

## CONTROL CIRCUIT

**DELAY TIME** 1/2 period

**DROP-OUT TIME** < 1/2 period

**DROP-OUT VOLTAGE** 1.2 V DC

**INPUT CURRENT** < 12 mA

**PICK-UP VOLTAGE** 2.5 V DC

**RATED CONTROL SUPPLY VOLTAGE (US)  
AT AC, 50 HZ - MIN** 0 V

**RATED CONTROL SUPPLY VOLTAGE (US)  
AT AC, 50 HZ - MAX** 0 V

**RATED CONTROL SUPPLY VOLTAGE (US)  
AT AC, 60 HZ - MIN** 0 V

**RATED CONTROL SUPPLY VOLTAGE (US)  
AT AC, 60 HZ - MAX** 0 V

**RATED CONTROL SUPPLY VOLTAGE (US)  
AT DC - MIN** 3 V

**RATED CONTROL SUPPLY VOLTAGE (US)  
AT DC - MAX** 32 V

## MOTOR RATING

**HORSEPOWER** 3 HP (230 V), 7.5 HP (480 V), 10 HP (600 V)

## DESIGN VERIFICATION

**EQUIPMENT HEAT DISSIPATION, CURRENT-  
DEPENDENT PVID** 56 W

**HEAT DISSIPATION PER POLE, CURRENT-  
DEPENDENT PVID** 56 W

**RATED OPERATIONAL CURRENT FOR  
SPECIFIED HEAT DISSIPATION (IN)** 50 A

**STATIC HEAT DISSIPATION, NON-CURRENT-  
DEPENDENT PVS** 0 W

**10.2.2 CORROSION RESISTANCE**

Meets the product standard's requirements.

**10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES**

Meets the product standard's requirements.

**10.2.3.2 VERIFICATION OF RESISTANCE OF INSULATING MATERIALS TO NORMAL HEAT**

Meets the product standard's requirements.

**10.2.3.3 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS**

Meets the product standard's requirements.

**10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION**

Please enquire

**10.2.5 LIFTING**

Does not apply, since the entire switchgear needs evaluated.

**10.2.6 MECHANICAL IMPACT**

Does not apply, since the entire switchgear needs evaluated.

**10.2.7 INSCRIPTIONS**

Meets the product standard's requirements.

**10.3 DEGREE OF PROTECTION OF ASSEMBLIES**

Does not apply, since the entire switchgear needs evaluated.

**10.4 CLEARANCES AND CREEPAGE DISTANCES**

Meets the product standard's requirements.

**10.5 PROTECTION AGAINST ELECTRIC SHOCK**

Does not apply, since the entire switchgear needs evaluated.

**10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS**

Does not apply, since the entire switchgear needs evaluated.

**10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS**

Is the panel builder's responsibility.

**10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS**

Is the panel builder's responsibility.

**10.9.2 POWER-FREQUENCY ELECTRIC**

Is the panel builder's responsibility.

## STRENGTH

### 10.9.3 IMPULSE WITHSTAND VOLTAGE

Is the panel builder's responsibility.

### 10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL

Is the panel builder's responsibility.

### 10.10 TEMPERATURE RISE

The panel builder is responsible for the temperature calculation. Eaton will provide heat dissipation devices.

### 10.11 SHORT-CIRCUIT RATING

Is the panel builder's responsibility. The specific switchgear must be observed.

### 10.12 ELECTROMAGNETIC COMPATIBILITY

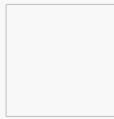
Is the panel builder's responsibility. The specific switchgear must be observed.

### 10.13 MECHANICAL FUNCTION

The device meets the requirements, provided in the instruction leaflet (IL) is observed.

## Resources >

How to buy from Eaton



## Questions before you buy

Contact us via web form by clicking the link above, or call us: +44 (0) 1753 608 700 option 2, then option 1

