



## &lt; HLR SOLID STATE RELAYS

360040



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## GENERAL SPECIFICATIONS

**PRODUCT NAME**

Eaton Moeller series HLR solid state relay

**CATALOG NUMBER**

360040

**MODEL CODE**

HLR15/1(DC)600V

**EAN**

4015081998081

**PRODUCT LENGTH/DEPTH**

103.5 mm

**PRODUCT HEIGHT**

110 mm

**PRODUCT WIDTH**

17.8 mm

**PRODUCT WEIGHT**

.205 kg

**COMPLIANCES**CE Marked  
RoHS Compliant**CERTIFICATIONS**CE  
UL 508  
EAC

## FEATURES & FUNCTIONS

<b>FEATURES</b>	Modular version
<b>FUNCTIONS</b>	Switching at zero-crossing
<b>ELECTRICAL CONNECTION TYPE FOR AUXILIARY- AND CONTROL-CURRENT CIRCUIT</b>	Screw connection
<b>ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT</b>	Screw connection

## GENERAL

<b>DEGREE OF PROTECTION</b>	IP20
<b>FREQUENCY RATING</b>	45 Hz - 65 Hz
<b>MOUNTING POSITION</b>	Mount device in specified orientation and do not use heatsink
<b>NUMBER OF PHASES</b>	1
<b>NUMBER OF PILOT LIGHTS</b>	1
<b>OVERVOLTAGE CATEGORY</b>	III
<b>POLLUTION DEGREE</b>	2
<b>RATED IMPULSE WITHSTAND VOLTAGE (UIMP)</b>	6 kV (1.2/50 $\mu$ s)
<b>SERIES</b>	HLR

<b>SHOCK RESISTANCE</b>	15/11 g/ms (according to EN 50155, EN 61373)
<b>TYPE</b>	Solid-state relay
<b>VIBRATION RESISTANCE</b>	2 g/axis (2-100 Hz, IEC 60068-2-6, EN 50155)
<b>VOLTAGE TYPE</b>	DC

## CLIMATIC ENVIRONMENTAL CONDITIONS

<b>ALTITUDE</b>	0 - 1000 m (Above 1000 m derate linearly by 100 m up to a maximum of 2000 m)
<b>AMBIENT STORAGE TEMPERATURE - MIN</b>	-40 °C
<b>AMBIENT STORAGE TEMPERATURE - MAX</b>	100 °C
<b>CLIMATIC PROOFING</b>	95% relative humidity non-condensing at 40°C
<b>OPERATING TEMPERATURE - MIN</b>	-40 °C
<b>OPERATING TEMPERATURE - MAX</b>	80 °C

## ELECTROMAGNETIC COMPATIBILITY

<b>AIR DISCHARGE</b>	8 kV (according to IEC/EN 61000-4-2)
<b>BURST IMPULSE</b>	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)
<b>CONTACT DISCHARGE</b>	4 kV (according to IEC/EN 61000-4-2)

**IMMUNITY TO LINE-CONDUCTED  
INTERFERENCE**

10 V/m, 0.15 - 80 MHz, PC 1 (according to IEC 61000-4-6)

**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 Nm (17.7 lb-in)  
Control: 0.5 Nm (4.4 lb-in)**SCREWDRIVER SIZE**Main: Pozidriv 2  
Control: Pozidriv 1**ELECTRICAL RATING****OPERATING VOLTAGE - MAX.**

600 V

**OPERATING VOLTAGE - MIN.**

600 V

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

0 A

RATED OPERATIONAL CURRENT (IE) AT AC- 0 A  
3

RATED OPERATIONAL CURRENT (IE) AT AC- 20 A  
51

RATED OPERATIONAL CURRENT (IE) AT AC- 5 A  
53A

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

RATED OPERATIONAL VOLTAGE (UE) AT AC 600 V  
- MIN

RATED OPERATIONAL VOLTAGE (UE) AT AC 600 V  
- MAX

## SHORT-CIRCUIT RATING

RATED CONDITIONAL SHORT-CIRCUIT CURRENT, TYPE 1, 600 V/347 V 100 kA

RATED CONDITIONAL SHORT-CIRCUIT CURRENT (IQ), TYPE 2, 230 V 100 kA

RATED CONDITIONAL SHORT-CIRCUIT CURRENT (IQ), TYPE 2, 380 V, 400 V, 415 V 100 kA

## CONTROL CIRCUIT

DELAY TIME 1/2 period + 500 microseconds at 24 V DC

DROP-OUT TIME 1/2 period + 500 microseconds at 24 V DC

DROP-OUT VOLTAGE 1 V DC

**INPUT CURRENT**

10.5 mA at 24 V DC

**PICK-UP VOLTAGE**

3.8 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**

4 V

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

32 V

**MOTOR RATING****HORSEPOWER**

3 HP (230 V), 3 HP (480 V), 3 HP (600 V)

**RATED OPERATIONAL POWER AT 220/230  
V, 50 HZ**

.37 kW

**RATED OPERATIONAL POWER AT 400 V, 50  
HZ**

.75 kW

**DESIGN VERIFICATION****EQUIPMENT HEAT DISSIPATION, CURRENT-  
DEPENDENT PVID**

21 W

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

21 W

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

20 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 to be evaluated.

**10.2.6 MECHANICAL IMPACT**

Does not apply, since the entire switchgear needs to be 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 to be 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 to be evaluated.

**10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS**

Does not apply, since the entire switchgear needs to be 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 STRENGTH

Is the panel builder's responsibility.

## 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 that 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

