

Specifications



Eaton 199945

Eaton Moeller® series P1 On-Off switch, 40 A, 3 pole + N, surface mounting, with black thumb grip and front plate, in steel enclosure

General specifications

PRODUCT NAME	Eaton Moeller® series P1 On-off switch
CATALOG NUMBER	199945
MODEL CODE	P1-40/SE1/N
EAN	4015082953638
PRODUCT LENGTH/DEPTH	200 mm
PRODUCT HEIGHT	127 mm
PRODUCT WIDTH	150 mm
PRODUCT WEIGHT	1.675 kg
COMPLIANCES	UKCA CE
CERTIFICATIONS	IEC/EN 60947 IEC/EN 60947-3 IEC/EN 60204
CATALOG NOTES	Rated Short-time Withstand Current (Icw) for a time of 1 second

Actuator

ACTUATOR COLOR	Black
ACTUATOR TYPE	Short thumb-grip

Contacts

CONTROL CIRCUIT RELIABILITY	1 failure per 100,000 switching operations statistically determined, at 24 V DC, 10 mA)
NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)	0

Climatic environmental conditions

AMBIENT OPERATING TEMPERATURE - MAX	40 °C
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX	40 °C
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN	-25 °C
CLIMATIC PROOFING	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30

Design verification

10.10 TEMPERATURE RISE	The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
10.11 SHORT-CIRCUIT RATING	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.12 ELECTROMAGNETIC COMPATIBILITY	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.13 MECHANICAL FUNCTION	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.
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	UV resistance only in connection with protective shield.
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.
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	0 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	3.5 W
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	40 A
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	0 W

Electrical rating

RATED BREAKING CAPACITY AT 400/415 V (COS PHI TO IEC 60947-3)	290 kA
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RATED BREAKING CAPACITY AT 660/690 V (COS PHI TO IEC 60947-3)	130 kA
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RATED OPERATIONAL CURRENT (IE) AT AC-21, 440 V	40 A
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RATED OPERATIONAL CURRENT (IE) AT AC-23A, 230 V	40 A
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RATED OPERATIONAL CURRENT (IE) AT AC-23A, 400 V, 415 V	40 A
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RATED OPERATIONAL CURRENT (IE) AT AC-23A, 690 V	20 A
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RATED OPERATIONAL CURRENT (IE) AT AC-3, 220 V, 230 V, 240 V	30 A
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RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V	30 A
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RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V	17 A
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RATED OPERATIONAL POWER AT AC-23A, 220/230 V, 50 HZ	11 kW
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RATED OPERATIONAL POWER AT AC-23A, 400 V, 50 HZ	22 kW
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RATED OPERATIONAL POWER AT AC-23A, 690 V, 50 HZ	18.5 kW
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RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ	15 kW
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RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ	15 kW
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RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ	15 kW
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RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX	690 V
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RATED UNINTERRUPTED CURRENT (IU)	40 A
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UNINTERRUPTED	Rated uninterrupted
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Features & functions

ENCLOSURE MATERIAL	Steel
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FEATURES	Version as maintenance- /service switch
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FITTED WITH:	Black thumb grip and front plate Auxiliary contact
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NUMBER OF POLES	3+N
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CURRENT	current I _u is specified for max. cross-section.
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General information

ACCESSORIES	Auxiliary contact fitted by user.
DEGREE OF PROTECTION	IP65 NEMA Other
DEGREE OF PROTECTION (FRONT SIDE)	IP65
LIFESPAN, MECHANICAL	300,000 Operations
MOUNTING METHOD	Surface mounting
MOUNTING POSITION	As required
OPERATING FREQUENCY	50 Operations/h
OVERVOLTAGE CATEGORY	III
POLLUTION DEGREE	3
PRODUCT CATEGORY	On-Off switch
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	6000 V AC
SAFE ISOLATION	440 V AC, Between the contacts, According to EN 61140
SHOCK RESISTANCE	15 g, Mechanical, According to IEC/EN 60068-2-27, Half-sinusoidal shock 20 ms
SWITCHING ANGLE	90 °

Switching capacity

LOAD RATING	1.3 x I _e (with intermittent operation class 12, 60 % duty factor) 1.6 x I _e (with intermittent operation class 12, 40 % duty factor) 2 x I _e (with intermittent operation class 12, 25 % duty factor)
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Short-circuit rating

RATED CONDITIONAL SHORT-CIRCUIT CURRENT (IQ)	80 kA
RATED SHORT-TIME WITHSTAND CURRENT (ICW)	0.64 kA 640 A, Contacts, 1 second
SHORT-CIRCUIT PROTECTION RATING	50 A gG/gL, Fuse, Contacts

Terminal capacities

SCREW SIZE	M4, Terminal screw
TERMINAL CAPACITY	1 x (1 - 4) mm ² , flexible with ferrules to DIN 46228 2 x (1 - 4) mm ² , flexible with ferrules to DIN 46228 1 x 10 mm ² with fork terminal 2 x 10 mm ² with fork terminal
TIGHTENING TORQUE	1.6 Nm, Screw terminals

Resources

BROCHURES	Brochure - T Rotary Cam switch and P Switch-disconnector P1-40 Switch-disconnectors brochure
CATALOGUES	P1-40 Switch-disconnectors P Switch-disconnectors and T Rotary cam switches catalogue CA042001EN
DECLARATIONS OF CONFORMITY	eaton-on-off-switch-declaration-of-conformity-uk251288en.pdf eaton-on-off-switch-declaration-of-conformity-eu250805en.pdf
ECAD MODEL	ETN.199945.edz
INSTALLATION INSTRUCTIONS	eaton-switch-discon-p1-insulated-enclosure-il03802001z.pdf
INSTALLATION VIDEOS	Eaton's P Switch-disconnectors used in a factory
MCAD MODEL	eaton-erd-mcad-3d-models-p1-se1.stp eaton-erd-mcad-drawings-p1-se1.dwg
MULTIMEDIA	Unboxing Video P140

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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