Reversing switches, T0, 20 A, surface mounting, 2 contact unit(s), Contacts: 4, 45 $^{\circ}$, maintained, With 0 (Off) position, 1-0-2, Design number 8400



Part no. T0-2-8400/I1 207111

General specifications	
Product name	Eaton Moeller® series TO Reversing switch
Part no.	T0-2-8400/l1
EAN	4015082071110
Product Length/Depth	137 millimetre
Product height	102 millimetre
Product width	80 millimetre
Product weight	0.264 kilogram
Certifications	VDE 0660 IEC/EN 60947 IEC/EN 60204 IEC/EN 60947-3
Product Tradename	ТО
Product Type	Reversing switch
Product Sub Type	None
Catalog Notes	Rated Short-time Withstand Current (Icw) for a time of 1 second
eatures & Functions	
Enclosure material	Plastic
Features	Complete device in housing
Fitted with:	0 (off) position Black thumb grip and front plate
Inscription	1-0-2
Number of poles	2
General information	
Degree of protection	IP65
Degree of protection (front side)	IP65 NEMA 12
Lifespan, mechanical	400,000 Operations
Model	Reversing switch
Mounting method	Surface mounting
Mounting position	As required
Number of contact units	2
Operating frequency	1200 Operations/h
Overvoltage category	III
Pollution degree	3
Rated impulse withstand voltage (Uimp)	6000 V AC
Safe isolation	440 V AC, Between the contacts, According to EN 61140
Safety parameter (EN ISO 13849-1)	B10d values as per EN ISO 13849-1, table C.1
Shock resistance	15 g, Mechanical, According to IEC/EN 60068-2-27, Half-sinusoidal shock 20 ms
Suitable for	Ground mounting
Switching angle	45 °
Туре	Reversing switch
limatic environmental conditions	
Ambient operating temperature - min	-25 °C
Ambient operating temperature - max	40 °C
Ambient operating temperature (enclosed) - min	-25 °C
Ambient operating temperature (enclosed) - max	40 °C
Climatic proofing	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78

Terminal capacities	
Terminal capacity (flexible with ferrule)	2 x (0.75 - 2.5) mm², ferrules to DIN 46228 1 x (0.75 - 2.5) mm², ferrules to DIN 46228
Terminal capacity (solid/stranded)	2 x (1 - 2.5) mm ² 1 x (1 - 2.5) mm ²
Screw size	M3.5, Terminal screw
Tightening torque	1 Nm, Screw terminals 8.8 lb-in, Screw terminals
Electrical rating	
Rated breaking capacity at 220/230 V (cos phi to IEC 60947-3)	100 A
Rated breaking capacity at 400/415 V (cos phi to IEC 60947-3)	110 A
Rated breaking capacity at 500 V (cos phi to IEC 60947-3)	80 A
Rated breaking capacity at 660/690 V (cos phi to IEC 60947-3)	60 A
Rated operational current (le)	20 A at AC-3, 400 V star-delta 20 A at AC-3, 230 V star-delta 8.5 A at AC-3, 690 V star-delta 15.6 A at AC-3, 500 V star-delta
Rated operational current (Ie) at AC-3, 220 V, 230 V, 240 V	11.5 A
Rated operational current (Ie) at AC-3, 380 V, 400 V, 415 V	11.5 A
Rated operational current (le) at AC-3, 500 V	9 A
Rated operational current (le) at AC-3, 660 V, 690 V	4.9 A
Rated operational current (le) at AC-21, 440 V	20 A
Rated operational current (Ie) at AC-23A, 230 V	13.3 A
Rated operational current (Ie) at AC-23A, 400 V, 415 V	13.3 A
Rated operational current (Ie) at AC-23A, 500 V	13.3 A
Rated operational current (Ie) at AC-23A, 690 V	7.6 A
Rated operational current (Ie) at DC-1, load-break switches $I/r = 1 \text{ ms}$	10 A
Rated operational current (Ie) at DC-13, control switches $L/R = 50 \text{ ms}$	10 A
Rated operational current (Ie) at DC-21, 240 V	1 A
Rated operational current (Ie) at DC-23A, 24 V	10 A
Rated operational current (Ie) at DC-23A, 48 V	10 A
Rated operational current (Ie) at DC-23A, 60 V	10 A
Rated operational current (Ie) at DC-23A, 120 V	5 A
Rated operational current (Ie) at DC-23A, 240 V	5 A
Rated operational power at AC-3, 380/400 V, 50 Hz	4 kW
Rated operational power at AC-3, 415 V, 50 Hz	5.5 kW
Rated operational power at AC-3, 690 V, 50 Hz	4 kW
Rated operational power at AC-23A, 220/230 V, 50 Hz	3 kW
Rated operational power at AC-23A, 400 V, 50 Hz	5.5 kW
Rated operational power at AC-23A, 500 V, 50 Hz	7.5 kW
Rated operational power at AC-23A, 690 V, 50 Hz	5.5 kW
Rated operational power star-delta at 220/230 V, 50 Hz	5.5 kW
Rated operational power star-delta at 380/400 V, 50 Hz	7.5 kW
Rated operational power star-delta at 500 V, 50 Hz	7.5 kW
Rated operational power star-delta at 690 V, 50 Hz	5.5 kW
Rated operational voltage (Ue) at AC - max	690 V
Rated uninterrupted current (Iu)	20 A
Uninterrupted current	Rated uninterrupted current lu is specified for max. cross-section.
Short-circuit rating	
Rated conditional short-circuit current (Iq)	6 kA
Rated short-time withstand current (Icw)	320 A, Contacts, 1 second
Short-circuit protection rating	20 A gG/gL, Fuse, Contacts
Switching capacity	
Load rating	2 x l# (with intermittent operation class 12, 25 % duty factor) 1.3 x l# (with intermittent operation class 12, 60 % duty factor) 1.6 x l# (with intermittent operation class 12, 40 % duty factor)
Number of contacts in series at DC-21A, 240 V	1
Number of contacts in series at DC-23A, 24 V	1

observed.	Number of contacts in series at DC-23A, 48 V	2
Number of contacts in series at DC-22A, 240 V Rated making caperity up the RM Vices pit in EECFN 69847-31 VORtage per contact pair in series Contract circuit reliability Number of auxiliary contacts (change-over contacts) Actuator Actuator Actuator Actuator Actuator Actuator Actuator tractice Actuato	Number of contacts in series at DC-23A, 60 V	3
Rated making capacity par to 680 V (cos phi to IEC/EN 68947-3) Voltage per contact spair in series Control circuit reliability Number of auxiliary contacts (change-over contacts) Number of auxiliary contacts (change-over contacts) Number of auxiliary contacts (change-over contacts) Number of auxiliary contacts (normally closed contacts) Number of auxiliary contacts (normally closed contacts) Number of auxiliary contacts (normally open contacts) Number of auxiliary contacts (normally open contacts) Actuator Wich 0 (017) goulston Maritanide Actuator type Design verification Faginiment bend dissipation, current-dependent Poid Actuator type Pesign verification Faginiment bend dissipation, current-dependent Poid Actuator type Pesign verification Faginiment bend dissipation, current-dependent Poid Actuator type Pesign verification Faginiment bend dissipation, current-dependent Poid Actuator type Pesign verification Faginiment bend dissipation, current-dependent Poid Actuator type Pesign verification Faginiment bend dissipation, current-dependent Poid Actuator type Pesign verification Faginiment bend dissipation, current-dependent Poid Actuator type Pesign verification Faginiment bend dissipation, current-dependent Poid OW Heat dissipation, on-current-dependent Poid Actuator type Poil Total Control of Poil Tota	Number of contacts in series at DC-23A, 120 V	3
Control circuit ratiobility Control circuit ratiobility Number of auxiliary contacts (change-over contacts) Number of contacts Number of contacts Number of contacts Number of auxiliary contacts (change-over contacts) Number of contacts Number of contacts Number of contacts Number of contacts Number of auxiliary contacts (change-over contacts) Number of contacts Number of contacts Number of contacts Number of contacts Number of auxiliary contacts (change-over contacts) Number of contacts Number of contacts Number of auxiliary contacts (change-over contacts) Number of contacts Number of auxiliary contacts (change-over contacts) Number of auxiliary contacts (change-over contacts) Number of contacts Number of auxiliary contacts (change-over contacts) Number of auxiliary contacts (change-over	Number of contacts in series at DC-23A, 240 V	5
Contacts Cantrol circuit reliability Author of auxiliary contacts (change-over contacts) Number of auxiliary contacts (change-over contacts) Actuator Actuator Actuator Actuator Actuator Design verification Equipment heat dissipation, current dependent Pvid Net dissipation capacity Pisis Design verification Equipment heat dissipation, current dependent Pvid Net dissipation capacity Pisis De W Float dissipation or profit, current-dependent Pvid Bas W Rated operational current for specified heat dissipation into Static heat dissipation, non-current-dependent Pvid Bas W Rated operational current for specified heat dissipation into Static heat dissipation, non-current-dependent Pvid Bas W Rated operational current for specified heat dissipation into Static heat dissipation, non-current-dependent Pvid Bas W Rated operational current for specified heat dissipation into Static heat dissipation, non-current-dependent Pvid Bas W Rated operational current for specified heat dissipation into Static heat dissipation, non-current-dependent Pvid Bas W Rated operational current for specified heat dissipation into Static heat dissipation, non-current-dependent Pvid Bas W Rated operational current for specified heat dissipation into Static dissipation, non-current-dependent Pvid Bas W Rated operational current for specified heat dissipation into Des not apply, since the entire switchpase reads to be evaluated. Des not apply, since the entire switchpase reads to be evaluated. Des not apply, since the entire switchpase reads to be evaluated. Des not apply, since the entire switchpase reads to be evaluated. Des not apply, si	Rated making capacity up to 690 V (cos phi to IEC/EN 60947-3)	130 A
Control circuit reliability Number of auxiliary contacts (change-ever contacts) Number of auxiliary contacts (change-ever contacts) Number of auxiliary contacts (change-ever contacts) Number of auxiliary contacts (contact) Number of auxiliary contacts (contact) Number of contacts Actuator function Actuator function With 0 (PM position Maintained Actuator type Design verification Equipment heat dissipation, current-dependent Pvid Neat dissipation capacity Plass O W Heat dissipation current for specified bear dissipation (in) Rated operational current for specified bear dissipation (in) 12.2 A Consistion resistance 12.2.1 Verification of thermal stability of enclosures Meets the product standard's requirements. 12.2.2 Verification of resistance of insignation more interest to normal heat 12.2.3 Perification of resistance in substitute of enclosures 12.2.4 Verification of resistance of insignation more interest to normal heat 12.2.5 Lifting Does not apply, since the entire switchgear needs to be evaluated. 12.2.5 Lifting Does not apply, since the entire switchgear needs to be evaluated. 12.5 Protection of assessmenting elevtric shock Does not apply, since the entire switchgear needs to be evaluated. 12.6 Perification of reciprical devices and components 12.7 Inscriptions Meets the product standard's requirements. 12.8 Mechanical impact Does not apply, since the entire switchgear needs to be evaluated. 12.8 Mechanical impact Does not apply, since the entire switchgear needs to be evaluated. 12.9 Protection of assemblies Does not apply, since the entire switchgear needs to be evaluated. 12.1 Instrumental electrical circuits and components 12.2 Power-frequency electric strength 13.2 Instrument all electrical circuits and components 14.3 Instrumental electrical circuits and components 15.5 Protection for extends of components 16.5 In panel builder's responsibility. 16.5 the panel builder's responsibility. 17.5 the panel builder's responsibility. 18.5 the panel builder's re	Voltage per contact pair in series	60 V
Number of auxiliary contacts (change over contacts) Number of auxiliary contacts (normally closed contacts) Number of auxiliary contacts (normally open contacts) Number of contacts Actuator Actuator Actuator Win in 10th position Minimized Actuator truncion Win in 10th position Minimized Actuator trype Short numb-grip Design verification Equipment heat dissipation, current-dependent Pvid D.W Heat dissipation per pole, current-dependent Pvid D.W Heat dissipation per pole, current-dependent Pvid D.W Heat dissipation in ore specified heat dissipation [In] D.S. W Heat dissipation in ore specified heat dissipation [In] D.S. W Heat dissipation on the remains a specified heat dissipation [In] D.S. W Heat dissipation on the remains a specified heat dissipation [In] D.S. W Heat dissipation on the remains a specified heat dissipation [In] D.S. W Heat dissipation on the remains a specified heat dissipation [In] D.S. W Heat dissipation on the remains a specified heat dissipation [In] D.S. W Heat dissipation on the remains a specified heat dissipation [In] D.S. W Heat dissipation on the remains a specified heat dissipation [In] D.S. W Heat dissipation on the remains a stability of enclosures Meets the product standard's requirements. Heat D.S. See heat of insulation materials to normal heat D.S. See heat the product standard's requirements. Heat D.S. See heat in the substitute of insulation materials to normal heat D.S. See heat the product standard's requirements. Heat D.S. See heat in the substitute of the control of essentials of the entire substitute of the control of the substitute of the control of the see heat substitute product standard's requirements. Heat D.S. See heat in the control of the entire substitute of the control of the substitute of the substitute of the control of the substitute of the control of the control of the control of the substitute of the pole of the control of the entire substitute of the control of the control of	Contacts	
Number of auxiliary contacts (normally open contacts) Number of contacts Actuator Actuator function Actu	Control circuit reliability	
Number of auxiliary contacts (normally open contacts) Actuator Actuator yes Actuator yes Design verification Equipment heat dissipation, carrent-dependent Pvid Heat dissipation per pole, current-dependent Pvid Heat dissipation per pole, current-dependent Pvid Heat dissipation per pole, current-dependent Pvid Astice heat dissipation, non-current-dependent Pvid Basic heat dissipation, non-current-dependent Pvid Astice heat dissipation, non-current-dependent Pvid Basic hea	Number of auxiliary contacts (change-over contacts)	0
Actuator Actuator function Actuator function Actuator type Design verification Equipment heat dissipation, current-dependent Pvid Heat dissipation expecitly Pdiss DW Heat dissipation per pole, current-dependent Pvid Heat dissipation current to specified heat dissipation (In) Static heat dissipation, non-current-dependent Pvid Heat dissipation in the product standard's requirements. 102.31 Verification of the standard in equal stability of enclosures Meats the product standard's requirements. 102.32 Verification of resistance of insulating materials to normal heat Heat standard's requirements. 102.32 Verification of resistance of insulating materials to normal heat Meats the product standard's requirements. 102.32 Verification of resistance of insulating materials to normal heat Neats the product standard's requirements. 102.32 Resistance to ultra-violet (UV) radiation UV resistance only in connection with protective shelid. 10.25 Heats standard's requirements. 10.26 Mechanical impact Does not apply, since the entire switchgear needs to be evaluated. 10.27 Inscriptions Meats the product standard's requirements. 10.28 Degree of protection of assemblies Does not apply, since the entire switchgear needs to be evaluated. 10.29 Degree of protection of assemblies Does not apply, since the entire switchgear needs to be evaluated. 10.40 Incorporation of switching devices and components Does not apply, since the entire switchgear needs to be evaluated. 10.51 Internal electrical circuits and connections State panel builder's responsibility. 10.40 Reconnections for external conductors State panel builder's responsibility. 10.41 Short-circuit rating State panel builder's responsibility. 10.42 Prover-frequency electric strength State panel builder's responsibility. 10.43 Mechanical function The panel builder's responsibility. 10.45 Prover-frequency electric strength State panel builder's responsibility. 10.54 Prover-frequency electric strength State panel builder's responsibility. 10.64 Prover-frequenc	Number of auxiliary contacts (normally closed contacts)	0
Actuator function Actuator type Design verification Equipment heat dissipation, current-dependent Pvid Heat dissipation, capacity Pdiss Rated operational current for specified heat dissipation (In) Static heat dissipation, non-current-dependent Pvid 10.2 Corresion resistance Meets the product standard's requirements. 10.2.2 Verification of resistance in insulating materials to normal heat 10.2.3.3 Resist of insul. mat. to abnormal heat/fire by internal elect. offects 10.2.4 Resistance to ultra-violet (IV) radiation 10.2.5 Lifting Does not apply, since the entric switchpear needs to be evaluated. 10.2.7 Inscriptions 10.8 Degree of protection of assemblies Does not apply, since the entric switchpear needs to be evaluated. 10.9 Protection against electric shock Does not apply, since the entric switchpear needs to be evaluated. 10.9 Protection against electric shock Does not apply, since the entric switchpear needs to be evaluated. 10.9 Protection against electric shock Does not apply, since the entric switchpear needs to be evaluated. 10.9 Protection against electric shock Does not apply, since the entric switchpear needs to be evaluated. 10.9 Protection against electric shock Does not apply, since the entric switchpear needs to be evaluated. 10.9 Protection against electric shock Does not apply, since the entric switchpear needs to be evaluated. 10.9 Protection against electric shock Does not apply, since the entric switchpear needs to be evaluated. 10.9 Protection against electric shock Does not apply, since the entric switchpear needs to be evaluated. 10.9 Protection against electric shock Does not apply, since the entric switchpear needs to be evaluated. 10.1 Riterary and the entric switchpear needs to be evaluated. 10.2 Power-frequency electric shock Does not apply, since the entric switchpear needs to be evaluated. 10.1 Riterary and the ent	Number of auxiliary contacts (normally open contacts)	0
Actuator function Actuator Type Design verification Equipment heat dissipation, current-dependent Pvid Equipment heat dissipation, current-dependent Pvid Design verification Equipment heat dissipation, current-dependent Pvid Design verification Equipment heat dissipation, current-dependent Pvid Design verification of pole, current-dependent Pvid Design verification of pole, current-dependent Pvid Design verification of pole, current-dependent Pvid Design verification of resistance Design verification of resistance Design verification of resistance Design verification of resistance of insulating materials to normal heat Design verification of resistance of insulating materials to normal heat Design verification of resistance of insulating materials to normal heat Design verification of resistance of insulating materials to normal heat Design verification of resistance of insulating materials to normal heat Design verification of resistance of insulating materials to normal heat Design verification of resistance of insulating materials to normal heat Design verification of resistance of insulating materials to normal heat Design verification of resistance of insulating materials to normal heat Design verification of resistance of insulating materials to normal heat Design verification on the melt stability of enclosures Design verification on the melt stability of enclosures Design verification on the melt stability of enclosures Design verification on the melting verification of assembles Design verification on the melting verification of the v	Number of contacts	4
Actuator type Design verification Equipment heat dissipation, current-dependent Pvid Heat dissipation, current-dependent Pvid Heat dissipation, per pole, current-dependent Pvid Bated operational current for specified heat dissipation (In) Static heat dissipation, per pole, current-dependent Pvid Bated operational current for specified heat dissipation (In) 20 A Static heat dissipation, non-current-dependent Pvs 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 thermal stability of enclosures Meets the product standard's requirements. 10.2.3.3 Resist, of insul, mat, to abnormal heat in the product standard's requirements. 10.2.3 Resist, of insul, mat, to abnormal heat in the product standard's requirements. 10.2.4 Resistance to ultra-violet (IVI) radiation 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 10.7 Internal electrical circuits and connections Is the panel builder's responsibility. 10.3 Degree of protection of external conductors Is the panel builder's responsibility. 10.4 Pears of external conductors Is the panel builder's responsibility. 10.5 Protection against electric shock 10.6 Internal electric shock 10.7 Internal electric shock 10.8 Connections for external conductors Is the panel builder's responsibility. 10.9 Prover-frequency electric strength Is the panel builder's responsibilit	Actuator	
Equipment heat dissipation, current-dependent Pvid	Actuator function	
Equipment heat dissipation, current-dependent Pvid Heat dissipation capacity Pdiss 0 W Heat dissipation per pole, current-dependent Pvid 8 Set de operational current for specified heat dissipation (In) 20 A Static heat dissipation, non-current-dependent Pvid 10 22 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 10 2.3.3 Resist of insul, mat to abnormal heat/fire by internal elect effects 10 2.4 Resistance to ultra-violet (UV) radiation 10 2.5 Lifting Does not apply, since the entire switchpear needs to be evaluated. 10 2.7 Inscriptions Meets the product standard's requirements. 10 3 Degree of protection of assemblies 10 A Clearances and creapage distances Meets the product standard's requirements. 10 A Clearances and creapage distances Meets the product standard's requirements. 10 A Clearances and creapage distances Meets the product standard's requirements. 10 A Clearances and creapage distances Meets the product standard's requirements. 10 A Clearances and creapage distances Meets the product standard's requirements. 10 A Clearances and creapage distances Meets the product standard's requirements. 10 A Clearance and creapage distances Meets the product standard's requirements. 10 A Clearances and creapage distances Meets the product standard's requirements. 10 A Clearance and creapage distances Meets the product standard's requirements. 10 A Clearance and creapage distances Meets the product standard's requirements. 10 A Clearance and creapage distances Meets the product standard's requirements. 10 A Clearance and creapage distances Meets the product standard's requirements. 10 A Clearance and creapage distances Meets the product standard's requirements. 10 A Clearance and creapage distances Meets the product standard's requirements. 10 A Clearance and creapage distances Doe	Actuator type	Short thumb-grip
Heat dissipation capacity Pdiss Heat dissipation prole, current-dependent Pvid Rated operational current for specified heat dissipation (In) Static heat dissipation, non-current-dependent Pvs OW 10.22 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. 10.2.7 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 A Testing of enclosures made of insulating material 10.10 Temperature rise The panel builder's responsibility. 10.11 Short-circuit rating 10.12 Electromagnetic compatibility Lis the panel builder's responsibility. 11.15 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	Design verification	
Heat dissipation per pole, current-dependent Pvid Rated operational current for specified heat dissipation (In) Static heat dissipation, non-current-dependent Pvs 0 W 10.22 Corrosion resistance 10.23.1 Verification of resistance of insulating materials to normal heat 10.23.2 Verification of thermal stability of enclosures 10.23.2 Verification of resistance of insulating materials to normal heat 10.23.2 Verification of resistance of insulating materials to normal heat 10.23.3 Resist of insul. mat. to abnormal heatfire by internal elect. effects 10.24 Resistance to ultra-violet (UV) radiation 10.25 Lifting 10.26 Mechanical impact 10.27 Inscriptions 10.3 Degree of protection of assemblies 10.3 Degree of protection of assemblies 10.4 Clearances and creepage distances 10.5 Protection against electric shock 10.6 Incorporation of switching devices and components 10.7 Internal electrical circuits and connections 10.7 Internal electrical circuits and connections 10.8 Connections for external conductors 10.9 Power-frequency electric strength 10.9 Resistance only in connection virth protective shield. 10.9 Incorporation of switching devices and components 10.9 Dees not apply, since the entire switchgear needs to be evaluated. 10.6 Incorporation of switching devices and components 10.7 Internal electrical circuits and connections 10.8 the panel builder's responsibility. 10.9 Power-frequency electric strength 10.9 Testing of enclosures made of insulating material 10.9 Internal electrical circuits and connections 10.9 Testing of enclosures made of insulating material 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.13 Electromagnetic compatibility 10.14 Electromagnetic compatibility 10.15 the panel builder's responsibility. The specifications for the switchgear must be observed. 10.13 Mechanical function 10.14 Mechanical function 10.15 the panel builder's responsibility. The specifications for the switchgear must be observed. 10.15 Mechanical function 10.16 Mechanical function 10.17	Equipment heat dissipation, current-dependent Pvid	0 W
Rated operational current for specified heat dissipation (In) Static heat dissipation, non-current-dependent Pvs 0 W 10.22 Corrosion resistance Meets the product standard's requirements. 102.3.1 Verification of thermal stability of enclosures Meets the product standard's requirements. 102.3.2 Verification of resistance of insulating materials to normal heat 102.3.3 Resist, of insul, mat, to abnormal heat/fire by internal elect, effects Meets the product standard's requirements. 102.4 Resistance to ultra-violet (UV) radiation 102.5 Lifting Does not apply, since the entire switchgear needs to be evaluated. 102.7 Inscriptions Meets the product standard's requirements. 103.0 Begree of protection of assemblies Does not apply, since the entire switchgear needs to be evaluated. 104.1 Clearances and creepage distances Meets the product standard's requirements. 105.4 Clearances and creepage distances Meets the product standard's requirements. 105.5 Protection against electric shock Does not apply, since the entire switchgear needs to be evaluated. 106.1 Incorporation of switching devices and components 107.1 Internal electrical circuits and connections Is the panel builder's responsibility. 108.2 Power-frequency electric strength Is the panel builder's responsibility. 109.3 Impulse withstand voltage Is the panel builder's responsibility. 109.4 Testing of enclosures made of insulating material Is the panel builder's responsibility. 10.10 Temperature rise The panel builder's responsibility. The specifications for the switchgear must be observed. 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	Heat dissipation capacity Pdiss	0 W
Static heat dissipation, non-current-dependent Pvs 10.2.2 Corrosion resistance 10.2.3.1 Verification of thermal stability of enclosures 10.2.3.2 Verification of resistance of insulating materials to normal heat 10.2.3.2 Resists of insul. mat. to abnormal heat/fire by internal elect. effects 10.2.4 Resistance of insulating materials to normal heat 10.2.5 Lifting 10.2.5 Lifting 10.2.5 Mechanical impact 10.2.7 Inscriptions 10.3 Degree of protection of assemblies 10.4 Clearances and creepage distances 10.5 Protection against electric shock 10.6 Incorporation of switching devices and components 10.7 Internal electrical circuits and connections 10.8 Connections for external conductors 10.9.2 Power-frequency electric strength 10.9.3 Impulse withstand voltage 10.9.4 Testing of enclosures made of insulating material 10.10 Temperature rise 10.11 Short-circuit rating 10.13 Mechanical function 10.13 Mechanical function 10.13 Mechanical function	Heat dissipation per pole, current-dependent Pvid	0.6 W
10.2.2 Corrosion resistance 10.2.3.1 Verification of thermal stability of enclosures 10.2.3.2 Verification of thermal stability of enclosures 10.2.3.2 Verification of resistance of insulating materials to normal heat 10.2.3.3 Resist. of insul. mat. to abnormal heat/fire by internal elect. effects 10.2.4 Resistance to ultra-violet (UV) radiation 10.2.5 Lifting 10.2.5 Lifting 10.2.5 Mechanical impact 10.2.7 Inscriptions 10.3 Degree of protection of assemblies 10.3 Degree of protection of assemblies 10.4 Clearances and creepage distances 10.5 Protection against electric shock 10.6 Incorporation of switching devices and components 10.7 Internal electrical circuits and connections 10.8 Connections for external conductors 10.9 Power-frequency electric strength 10.9.1 Degree of insulating material 10.9 Power-frequency electric strength 10.9 Is the panel builder's responsibility. 10.9.4 Testing of enclosures made of insulating material 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.13 Mechanical function Meets the product standard's requirements. Meets the product standard's requirements. Meets the product standard's requirements. Does not apply, since the entire switchgear needs to be evaluated. Meets the product standard's requirements. Does not apply, since the entire switchgear needs to be evaluated. Does not apply, since the entire switchgear needs to be evaluated. Is the panel builder's responsibility. Is the panel builder's responsibility. The specifications for the switchgear must be observed. In the device meets the requirements, provided the information in the instruction	Rated operational current for specified heat dissipation (In)	20 A
10.2.3.1 Verification of thermal stability of enclosures 10.2.3.2 Verification of resistance of insulating materials to normal heat 10.2.3.2 Resist. of insul. mat. to abnormal heat/fire by internal elect. effects 10.2.4 Resistance to ultra-violet (UV) radiation 10.2.5 Lifting 10.2.6 Mechanical impact 10.2.7 Inscriptions 10.3 Degree of protection of assemblies 10.4 Clearances and creepage distances 10.5 Protection against electric shock 10.6 Incorporation of switching devices and components 10.6 Incorporation of switching devices and components 10.7 Internal electrical circuits and connections 10.8 Connections for external conductors 10.9 Power-frequency electric strength 10.9.3 Impulse withstand voltage 10.9.4 Testing of enclosures made of insulating material 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.13 Mechanical function 10.13 Mechanical function Meets the product standard's requirements. Meets the product standard's requirements. Does not apply, since the entire switchgear needs to be evaluated. Meets the product standard's requirements. Does not apply, since the entire switchgear needs to be evaluated. Does not apply, since the entire switchgear needs to be evaluated. Does not apply, since the entire switchgear needs to be evaluated. Does not apply, since the entire switchgear needs to be evaluated. Does not apply, since the entire switchgear needs to be evaluated. Does not apply, since the entire switchgear needs to be evaluated. Does not apply, since the entire switchgear needs to be evaluated. Is the panel builder's responsibility. Is the panel builder's responsibility. Is the panel builder's responsibility. It is the panel builder's responsibility. The panel builder's responsibility. The specifications for the switchgear must be observed. In the panel builder's responsibility. The specifications for the switchgear must be observed.	Static heat dissipation, non-current-dependent Pvs	0 W
10.2.32 Verification of resistance of insulating materials to normal heat 10.2.33 Resist. of insul. mat. to abnormal heat/fire by internal elect. effects 10.24 Resistance to ultra-violet (UV) radiation 10.25 Lifting 10.26 Mechanical impact 10.27 Inscriptions 10.3 Degree of protection of assemblies 10.3 Degree of protection of assemblies 10.4 Clearances and creepage distances 10.5 Protection against electric shock 10.6 Incorporation of switching devices and components 10.7 Internal electrical circuits and connections 10.8 Connections for external conductors 10.9 Power-frequency electric strength 10.9.1 Testing of enclosures made of insulating material 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.13 Mechanical function Meets the product standard's requirements. 10.2 Does not apply, since the entire switchgear needs to be evaluated. 10.6 Incorporation of switching devices and components 10.7 Internal electrical circuits and connections 10.8 Connections for external conductors 10.9 The panel builder's responsibility. 10.9.1 Testing of enclosures made of insulating material 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.13 Mechanical function The device meets the requirements, provided the information in the instruction	10.2.2 Corrosion resistance	Meets the product standard's requirements.
10.2.3.3 Resist. of insul. mat. to abnormal heat/fire by internal elect. effects 10.2.4 Resistance to ultra-violet (UV) radiation 10.2.5 Lifting 10.2.6 Mechanical impact 10.2.6 Mechanical impact 10.2.7 Inscriptions 10.3 Degree of protection of assemblies 10.3 Degree of protection of assemblies 10.4 Clearances and creepage distances 10.5 Protection against electric shock 10.6 Incorporation of switching devices and components 10.7 Internal electrical circuits and connections 10.8 Connections for external conductors 10.9 Power-frequency electric strength 10.9.3 Impulse withstand voltage 10.9.4 Testing of enclosures made of insulating material 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.12 Electromagnetic compatibility 10.13 Mechanical function 10.13 Mechanical function 10.13 Mechanical function 10.13 Mechanical function Weets the product standard's requirements. Does not apply, since the entire switchgear needs to be evaluated. Does not apply, since the entire switchgear needs to be evaluated. Does not apply, since the entire switchgear needs to be evaluated. Is the panel builder's responsibility. The specifications for the switchgear must be observed. In the device meets the requirements, provided the information in the instruction	10.2.3.1 Verification of thermal stability of enclosures	Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation 10.2.5 Lifting 10.2.6 Mechanical impact 10.2.6 Mechanical impact 10.2.7 Inscriptions 10.2.8 Does not apply, since the entire switchgear needs to be evaluated. 10.2.7 Inscriptions 10.2.8 Meets the product standard's requirements. 10.3 Degree of protection of assemblies 10.4 Clearances and creepage distances 10.5 Protection against electric shock 10.6 Incorporation of switching devices and components 10.7 Internal electrical circuits and connections 10.8 Connections for external conductors 10.9.2 Power-frequency electric strength 10.9.3 Impulse withstand voltage 10.9.4 Testing of enclosures made of insulating material 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.13 Electromagnetic compatibility 10.14 Electromagnetic compatibility 10.15 Protection against electric shock 10.16 Incorporation of switching devices and components 10.17 Internal electrical circuits and connections 10.18 Connections for external conductors 10.19 Electromagnetic compatibility 10.2 Power-frequency electric strength 10.3 In pulse withstand voltage 10.4 Electromagnetic compatibility 10.5 Protection against electric strength 10.6 Incorporation of switching devices and components 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.13 Mechanical function 10.14 Electromagnetic compatibility 10.15 Productions for the switchgear must be observed. 10.16 Incorporation of with evidence in the information in the instruction of the devices in the first provided the information in the instruction of the device meets the requirements, provided the information in the instruction of the device meets the requirements, provided the information in the instruction of the device meets the requirements, provided the information in the instruction of the device meets the requirements, provided the information in the instruction of the device meets the requirements, provided the information in the instruction of the device	10.2.3.2 Verification of resistance of insulating materials to normal heat	Meets the product standard's requirements.
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's responsibility. 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.	10.2.3.3 Resist. of insul. mat. to abnormal heat/fire by internal elect. effects	Meets the product standard's requirements.
10.2.6 Mechanical impact 10.2.7 Inscriptions Meets the product standard's requirements. 10.3 Degree of protection of assemblies 10.4 Clearances and creepage distances Meets the product standard's requirements. 10.5 Protection against electric shock 10.6 Incorporation of switching devices and components 10.7 Internal electrical circuits and connections 10.8 Connections for external conductors 10.9.2 Power-frequency electric strength 10.9.3 Impulse withstand voltage 10.9.4 Testing of enclosures made of insulating material 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.13 Mechanical function 10.20 Sen not apply, since the entire switchgear needs to be evaluated. 10.5 Power-frequency electric strength 10.6 Incorporation of switching devices and components 10.9 Internal electrical circuits and connections 10.9 Is the panel builder's responsibility. 10.9 Is the panel builder's responsibility. 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.13 Mechanical function The device meets the requirements, provided the information in the instruction	10.2.4 Resistance to ultra-violet (UV) radiation	UV resistance only in connection with protective shield.
10.27 Inscriptions 10.3 Degree of protection of assemblies 10.4 Clearances and creepage distances 10.5 Protection against electric shock 10.6 Incorporation of switching devices and components 10.7 Internal electrical circuits and connections 10.8 Connections for external conductors 10.9 Power-frequency electric strength 10.9.3 Impulse withstand voltage 10.9.4 Testing of enclosures made of insulating material 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.13 Mechanical function Meets the product standard's requirements. Does not apply, since the entire switchgear needs to be evaluated. Does not apply, since the entire switchgear needs to be evaluated. Is the panel builder's responsibility. In panel builder's responsibility. The specifications for the switchgear must be observed.	10.2.5 Lifting	Does not apply, since the entire switchgear needs to be evaluated.
Does not apply, since the entire switchgear needs to be evaluated. 10.4 Clearances and creepage distances 10.5 Protection against electric shock 10.6 Incorporation of switching devices and components 10.7 Internal electrical circuits and connections 10.8 Connections for external conductors 10.9 Power-frequency electric strength 10.9.1 Testing of enclosures made of insulating material 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.13 Mechanical function Does not apply, since the entire switchgear needs to be evaluated. Does not apply, since the entire switchgear needs to be evaluated. Does not apply, since the entire switchgear needs to be evaluated. Does not apply, since the entire switchgear needs to be evaluated. Is the panel builder's responsibility. The specifications for the switchgear must be observed. Is the panel builder's responsibility. The specifications for the switchgear must be observed. The device meets the requirements, provided the information in the instruction	10.2.6 Mechanical impact	Does not apply, since the entire switchgear needs to be evaluated.
10.4 Clearances and creepage distances 10.5 Protection against electric shock 10.6 Incorporation of switching devices and components 10.7 Internal electrical circuits and connections 10.8 Connections for external conductors 10.9 Power-frequency electric strength 10.9.1 Testing of enclosures made of insulating material 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.13 Mechanical function Meets the product standard's requirements. Does not apply, since the entire switchgear needs to be evaluated. 10.15 the panel builder's responsibility. Is the panel builder's responsibility. 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	10.2.7 Inscriptions	Meets the product standard's requirements.
Does not apply, since the entire switchgear needs to be evaluated. 10.6 Incorporation of switching devices and components 10.7 Internal electrical circuits and connections 10.8 Connections for external conductors 10.9.2 Power-frequency electric strength 10.9.3 Impulse withstand voltage 10.9.4 Testing of enclosures made of insulating material 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.13 Mechanical function 10.13 Mechanical function Does not apply, since the entire switchgear needs to be evaluated. 10 she panel builder's responsibility. Is the panel builder's responsibility. Is the panel builder's responsibility. Is the panel builder's responsibility. The panel builder is responsibility. Is the panel builder is responsibility. Is the panel builder's responsibility. 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	10.3 Degree of protection of assemblies	Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components 10.7 Internal electrical circuits and connections 1s the panel builder's responsibility. 10.8 Connections for external conductors 1s the panel builder's responsibility. 10.9.2 Power-frequency electric strength 10.9.3 Impulse withstand voltage 1s the panel builder's responsibility. 10.9.4 Testing of enclosures made of insulating material 1s the panel builder's responsibility. 10.10 Temperature rise The panel builder is responsibility. 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	10.4 Clearances and creepage distances	Meets the product standard's requirements.
10.7 Internal electrical circuits and connections 10.8 Connections for external conductors 10.9.2 Power-frequency electric strength 10.9.3 Impulse withstand voltage 10.9.4 Testing of enclosures made of insulating material 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.13 Mechanical function 10.13 Mechanical function 10.14 Sthe panel builder's responsibility. 11.15 Is the panel builder's responsibility. 12.16 Is the panel builder's responsibility. 13.17 Internal electrical circuits and connections 14.18 the panel builder's responsibility. 15.19 Is the panel builder's responsibility. 16.10 Temperature rise 17.10 Temperature rise calculation. Eaton will provide heat dissipation data for the devices. 18.19 Is the panel builder's responsibility. The specifications for the switchgear must be observed. 19.10 The device meets the requirements, provided the information in the instruction	10.5 Protection against electric shock	Does not apply, since the entire switchgear needs to be evaluated.
10.8 Connections for external conductors 10.9.2 Power-frequency electric strength 10.9.3 Impulse withstand voltage 10.9.4 Testing of enclosures made of insulating material 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.13 Mechanical function 10.14 Stepping builder's responsibility. The specifications for the switchgear must be observed. 10.15 The panel builder's responsibility. The specifications for the switchgear must be observed. 10.12 Electromagnetic compatibility 10.13 Mechanical function 10.14 Electromagnetic provided the information in the instruction	10.6 Incorporation of switching devices and components	Does not apply, since the entire switchgear needs to be evaluated.
10.9.2 Power-frequency electric strength 10.9.3 Impulse withstand voltage 1s the panel builder's responsibility. 10.9.4 Testing of enclosures made of insulating material 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.13 Mechanical function Is the panel builder's responsibility. Is the panel builder's responsibility. Is the panel builder's responsibility. The specifications for the switchgear must be observed. In the panel builder's responsibility. The specifications for the switchgear must be observed. In the panel builder's responsibility. The specifications for the switchgear must be observed. The panel builder's responsibility. The specifications for the switchgear must be observed.	10.7 Internal electrical circuits and connections	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. 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	10.8 Connections for external conductors	Is the panel builder's responsibility.
10.9.4 Testing of enclosures made of insulating material 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	10.9.2 Power-frequency electric strength	Is the panel builder's responsibility.
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	10.9.3 Impulse withstand voltage	Is the panel builder's responsibility.
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	10.9.4 Testing of enclosures made of insulating material	Is the panel builder's responsibility.
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	10.10 Temperature rise	
observed. 10.13 Mechanical function The device meets the requirements, provided the information in the instruction	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	

Technical data ETIM 9.0

Low-voltage industrial components (EG000017) / Off-load switch (EC001105)

Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Load-break switch (ecl@ss13-27-37-14-05 [AKF062018])

Model		Reversing switch
Number of poles		2
With zero (off) position		Yes
With retraction in 0-position		No
Rated permanent current lu	Α	20

Rated operation current le at AC-3, 400 V	А	11.5
Rated operation power at AC-3, 400 V	kW	/ 4
Degree of protection (IP), front side		IP65
Degree of protection (NEMA), front side		12
Number of auxiliary contacts as normally closed contact		0
Number of auxiliary contacts as normally open contact		0
Number of auxiliary contacts as change-over contact		0
Suitable for floor mounting		Yes
Suitable for front mounting		No
Suitable for distribution board installation		No
Suitable for intermediate mounting		No
Complete device in housing		Yes
Housing material		Plastic
Type of control element		Short thumb-grip
Type of electrical connection of main circuit		Screw connection