ON-OFF switches, T0, 20 A, service distribution board mounting, 1 contact unit(s), Contacts: 1, 45  $^{\circ}$ , maintained, With 0 (Off) position, 0-1, Design number 15401



Part no. T0-1-15401/IVS

045973

**EL Number** 1417048

(Norway)

Product varies	(Norway)	
Part no. EAN 015686969738 Product Length Degith Product Length Degith Product Length Degith Product Length Care Product Care Product Tradename Product Length Product Leng	General specifications	
ENP Product InequityDepth Product InequityDepth Product InequityDepth Product InequityDepth Product Vergits Product Vergits Product Vergits Carrifications  Product Treatment Product Vergits Carrifications  Product Treatment Prod	Product name	Eaton Moeller® series TO On-Off switch
Product Length Chepit Product Length Chepit Product width Product would Product would Product would Product would Certifications UL File No.: ESS32 VIL File No.: ESS3	Part no.	T0-1-15401/IVS
Product height Product width Product width Curl fications Curl fic	EAN	4015080459736
Product weight Cardifications Cardif	Product Length/Depth	82 millimetre
Product weight  Certifications  Certifications	Product height	55 millimetre
Certifications     U.F. in No. 193322   Vice 1930   U.E. Caragory Common No. 19, 194   Vice 1930   U.E. Caragory Common No. 19, 194   Vice 1930   Vi	Product width	54 millimetre
VIDE 6889   VID	Product weight	0.106 kilogram
Product Type Product Sub Type Catalog Notes Rated Short-time Withstand Current (Icw) for a time of 1 second Features & Functions Fitted with:  Inscription O-1 Number of poles Seneral information Degree of protection (front side) Degree of protection (front side) Mounting method Mounting method Mounting nosition Mounting position Number of contact units Operating frequency Operating frequency Degree of motection (Institution degree Product catagory Rated impulse withstand voltage (Uimp) Safet parameter (EN ISO 13849-1) Shock resistance Suitching angle  Switching angle  On-Off switches Rated Mounting Operating angle Operating frequency Operating Safety of the Control switches Safety parameter (EN ISO 13849-1) Shock resistance Switching angle  Oswitching angle  On-Off switches Operating angle Operating angle Operating frequency Operating Safety operating (UIVCSA) Safety parameter (EN ISO 13849-1) Shock resistance Switching angle	Certifications	VDE 0660  UL Category Control No.: NLRV  CSA Class No.: 3211-05  CSA-C22.2 No. 94  IEC/EN 60204  IEC/EN 60947-3  CE  CSA-C22.2 No. 60947-4-1-14  UL 60947-4-1  CSA File No.: 012528  IEC/EN 60947  UL
Product Sub Type Catalog Notes  Fitted with:  Inscription  Number of poles  Beneral information  Degree of protection (front side)  Lifespan, mechanical  Mounting pesition  Mounting pesition  Number of contact units  Operating frequency  Operating frequency  Overvoltage category  Product catagory  Product catagory  Rated impulse withstand voltage (Ulimp)  Safe is polation  Suitable for  Suitable for  Suitable for  Suitable for  Ground mounting  Rated Short-time Withstand Current (Icw) for a time of 1 second  Rated Short-time Withstand Current (Icw) for a time of 1 second  Bated Short-time Withstand Current (Icw) for a time of 1 second  Octor of panel front plate  Operation (Icw) gip and front plate  IP30  IP30  NEMA 2  IP30  NEMA 2  Lifespan, mechanical  400,000 Operations  Nember of contact units  1 200 Operation frequency  Overvoltage category  III  Pollution degree  Product catagory  Safe isolation  Safe isolation  Safe yip armeter (EN ISO 13849-1)  Shock resistance  Sitable for  Ground mounting  Distribution board installation  Sitable for  Ground mounting  Distribution board installation  Sinch circuits, suitable as motor disconnect, (UL/CSA)	Product Tradename	ТО
Teating Notes Features & Functions  Fitted with:  Inscription  Number of poles  Seneral information  Degree of protection (front side)  Lifespan, mechanical  Mounting method  Mounting method  Mounting position  Number of contact units  Operating frequency  Overvoltage category  Product category  Rated Monton (Seneral information)  Rounding formation  Operating frequency  Overvoltage category  Rated Mounting Mounting obsition  Rated impulse withstand voltage (Uimp)  Sale isolation  Sale isolation  Sale isonate  Sultable for  Switching angle  Rated Monton (Seneral (Icw) for a time of 1 second  Oloff) position  Black thumb grip and front plate  Oloff) position  Black thumb grip and front plate  Oloff) position  Black thumb grip and front plate  Opage a front plate  North (Icw) for a time of 1 second  Slack thumb grip and front plate  Oloff) position  Black thumb grip and front plate  Opage a front plate  IP30  NEMA 2  Lifespan, mechanical  As required  As required  As required  As required  As required  III  Control switches  Somov AC  Sale isolation  Sale isolation isolation isolation  Sale isolation isolation isolation  Blod values as per EN ISO 13849-1, table C.1  15 g, Mechanical, According to EC/EN 60069-2-27, Half-sinusoidal shock 20 ms  Sintable for  Sintable for  Sintable isolation isolation  Sintable isolation isolation  Baranch incrudis, suitable as motor disconnect, (UL/CSA)	Product Type	On-Off switch
Fitted with:  Fi	Product Sub Type	None
Fitted with:  Inscription  Inscription  Number of poles  Seneral information  Degree of protection (front side)  Lifespan, mechanical  Mounting method  Mounting method  Mounting position  Number of contact units  Operating frequency  Overvoltage category  Pollution degree  Pollution degree  Product category  Rated impulse withstand voltage (Uimp)  Safe isolation  Safe y parameter (EN ISO 13849-1)  Shock resistance  Suitable for  Switching angle  10 (Iff) position  Black thumb grip and front plate  O-1  Single-pole  Single-pole  1P30  Pago  NEMA 2  1P30  NEMA 2  A00,000 Operations  NEMA 2  Service distribution board mounting  As required  1 1  1 200 Operations/h  2 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Catalog Notes	Rated Short-time Withstand Current (Icw) for a time of 1 second
Black thumb grip and front plate	eatures & Functions	
Number of poles  Seneral information  Degree of protection  Degree of protection (Front side)  Lifespan, mechanical  Mounting method  Mounting position  Number of contact units  Operating frequency  Overvoltage category  Pollution degree  Product category  Rated impulse withstand voltage (Uimp)  Safets parameter (EN ISO 13849-1)  Shock resistance  Suitable for  Single-pole  IP30  IP30  NEMA 2  400,000 Operations  As required  400,000 Operations  Service distribution board mounting  As required  1 100 Operations/h  III  Control switches  6000 V AC  Safe sloalation  440 V AC, Between the contacts, According to EN 61140  Safety parameter (EN ISO 13849-1)  Shock resistance  Suitable for  Ground mounting  Distribution board installation  Branch circuits, suitable as motor disconnect, (UL/CSA)  Switching angle	Fitted with:	
Degree of protection Degree of protection (front side) P30 NEMA 2 Lifespan, mechanical Mounting method Mounting position Number of contact units Operating frequency Overvoltage category III Pollution degree Rated impulse withstand voltage (Uimp) Safe isolation Safe isolation Safe yearmeter (EN ISO 13849-1) Shock resistance Suitable for Switching angle  Page of protection IP30 NEMA 2 Product category III Shock resistance Suitable for Switching angle  P50 Switching angle IP30 NEMA 2 P70 Service distribution board mounting As required A00,000 Operations P60 Service distribution board mounting As required 11 1200 Operations/h 11 1200 Operations/h 11 1200 Operations/h 1200 Operations 1200 O	Inscription	0-1
Degree of protection Degree of protection (front side)  Lifespan, mechanical Mounting method Mounting position Mounting position Mounting position  Number of contact units  Operating frequency Overvoltage category  III  Pollution degree Product category Rated impulse withstand voltage (Uimp) Safety parameter (EN ISO 13849-1) Shock resistance  Suitable for  Switching angle  IP30  Page 4  400,000 Operations As required 400,000 Operations As required 400,000 Operations 100,000 Operations As required 400 Operations/h 110  1200 Operations 120	Number of poles	Single-pole
Degree of protection (front side)  Lifespan, mechanical  Mounting method  Mounting position  Mounting position  Mumber of contact units  Operating frequency  Overvoltage category  III  Pollution degree  Product category  Rated impulse withstand voltage (Uimp)  Safe isolation  Safe y parameter (EN ISO 13849-1)  Shock resistance  Suitable for  Switching angle  IP30  NEMA 2  400,000 Operations  400,000 Operations  As required  400,000 Operations  10  400 Operations  As required  11  1200 Operations/h  11  1200 Operations/h  11  11  1200 Operations/h  11  1200 Operations/h  11  1200 Operations/h  12	General information	
Lifespan, mechanical 400,000 Operations  Mounting method Service distribution board mounting  Mounting position As required  Number of contact units 1 Operating frequency 1200 Operations/h Overvoltage category III Pollution degree 3 Product category Control switches 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 Ground mounting Distribution board mounting Distribution board installation Branch circuits, suitable as motor disconnect, (UL/CSA)	Degree of protection	IP30
Mounting method Mounting position As required  Number of contact units 1 Operating frequency Overvoltage category III  Pollution degree 3 Product category Rated impulse withstand voltage (Uimp) Safe isolation Safety parameter (EN ISO 13849-1) Shock resistance Suitable for Switching angle Service distribution board mounting As required As required  1 Control Switches 1200 Operations/h 11 Control switches 3 Control switches 6000 V AC 440 V AC, Between the contacts, According to EN 61140 B10d values as per EN ISO 13849-1, table C.1 Shock resistance Ground mounting Distribution board installation Branch circuits, suitable as motor disconnect, (UL/CSA)  Switching angle	Degree of protection (front side)	
Mounting position  Number of contact units  1 Operating frequency 1200 Operations/h Overvoltage category III  Pollution degree 3 Product category Control switches Rated impulse withstand voltage (Uimp) Safe isolation Safety parameter (EN ISO 13849-1) Shock resistance Suitable for Switching angle As required As required  As requi	Lifespan, mechanical	400,000 Operations
Number of contact units  Operating frequency  Overvoltage category  III  Pollution degree  3  Product category  Control switches  Rated impulse withstand voltage (Uimp)  Safety parameter (EN ISO 13849-1)  Shock resistance  Suitable for  Switching angle  1200 Operations/h  110  1200 Operations/h  111  1200 Operations/h  120	Mounting method	Service distribution board mounting
Operating frequency Overvoltage category III  Pollution degree 3  Product category Control switches Rated impulse withstand voltage (Uimp) Safe isolation Safety parameter (EN ISO 13849-1) Shock resistance Suitable for Switching angle  1200 Operations/h III  140  140  150  150  150  150  150  150	Mounting position	As required
Overvoltage category  Pollution degree  3  Product category  Control switches  Rated impulse withstand voltage (Uimp)  Safe isolation  Safety parameter (EN ISO 13849-1)  Shock resistance  Suitable for  Switching angle  III  6000 V AC  6000 V AC  440 V AC, Between the contacts, According to EN 61140  B 10d values as per EN ISO 13849-1, table C.1  15 g, Mechanical, According to IEC/EN 60068-2-27, Half-sinusoidal shock 20 ms  Ground mounting Distribution board installation Branch circuits, suitable as motor disconnect, (UL/CSA)  Switching angle	Number of contact units	1
Pollution degree 3  Product category Control switches  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 Distribution board installation Branch circuits, suitable as motor disconnect, (UL/CSA)  Switching angle 45 °	Operating frequency	1200 Operations/h
Product category  Rated impulse withstand voltage (Uimp)  6000 V AC  Safe isolation  Safety parameter (EN ISO 13849-1)  Shock resistance  Suitable for  Suitable for  Switching angle  Control switches  6000 V AC  440 V AC, Between the contacts, According to EN 61140  810d values as per EN ISO 13849-1, table C.1  15 g, Mechanical, According to IEC/EN 60068-2-27, Half-sinusoidal shock 20 ms  Ground mounting Distribution board installation Branch circuits, suitable as motor disconnect, (UL/CSA)  Switching angle  45 °	Overvoltage category	III
Rated impulse withstand voltage (Uimp)  Safe isolation  Safety parameter (EN ISO 13849-1)  Shock resistance  Suitable for  Suitable for  Switching angle  6000 V AC  440 V AC, Between the contacts, According to EN 61140  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  Ground mounting Distribution board installation Branch circuits, suitable as motor disconnect, (UL/CSA)  Switching angle	Pollution degree	3
Safe isolation  Safety parameter (EN ISO 13849-1)  Shock resistance  Suitable for  Suitable for  Switching angle  440 V AC, Between the contacts, According to EN 61140  B10d values as per EN ISO 13849-1, table C.1  15 g, Mechanical, According to IEC/EN 60068-2-27, Half-sinusoidal shock 20 ms  Ground mounting Distribution board installation Branch circuits, suitable as motor disconnect, (UL/CSA)  45°	Product category	Control switches
Safety parameter (EN ISO 13849-1)  Shock resistance  15 g, Mechanical, According to IEC/EN 60068-2-27, Half-sinusoidal shock 20 ms  Suitable for  Ground mounting Distribution board installation Branch circuits, suitable as motor disconnect, (UL/CSA)  Switching angle  45 °	Rated impulse withstand voltage (Uimp)	6000 V AC
Shock resistance  15 g, Mechanical, According to IEC/EN 60068-2-27, Half-sinusoidal shock 20 ms  Ground mounting Distribution board installation Branch circuits, suitable as motor disconnect, (UL/CSA)  Switching angle  45 °	Safe isolation	440 V AC, Between the contacts, According to EN 61140
Suitable for Ground mounting Distribution board installation Branch circuits, suitable as motor disconnect, (UL/CSA)  Switching angle 45 °	Safety parameter (EN ISO 13849-1)	B10d values as per EN ISO 13849-1, table C.1
Distribution board installation Branch circuits, suitable as motor disconnect, (UL/CSA)  Switching angle  45 °	Shock resistance	15 g, Mechanical, According to IEC/EN 60068-2-27, Half-sinusoidal shock 20 ms
	Suitable for	Distribution board installation
Type ON-OFF switch	Switching angle	45 °
	Туре	ON-OFF switch

Ambient operating temperature - min	-25 °C
Ambient operating temperature - max	50 °C
Ambient operating temperature (enclosed) - min	-25 °C
Ambient operating temperature (enclosed) - max	40 °C
Climatic proofing	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
Ferminal capacities	
Terminal capacity (flexible with ferrule)	1 x (0.75 - 2.5) mm², ferrules to DIN 46228 2 x (0.75 - 2.5) mm², ferrules to DIN 46228
Terminal capacity (solid/flexible with ferrule AWG)	18 - 14
Terminal capacity (solid/stranded)	2 x (1 - 2.5) mm <sup>2</sup> 1 x (1 - 2.5) mm <sup>2</sup>
Screw size	M3.5, Terminal screw
Tightening torque	8.8 lb-in, Screw terminals 1 Nm, 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 operating voltage (Ue) at AC - max	690 V
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 (Ie) at AC-3, 500 V	9 A
Rated operational current (Ie) at AC-3, 660 V, 690 V	4.9 A
Rated operational current (Ie) 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 ms	10 A
Rated operational current (Ie) at DC-13, control switches L/R = 50 ms	10 A
Rated operational current (Ie) at DC-21, 240 V	1A
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 current (Ie) star-delta at AC-3, 230 V	20 A
Rated operational current (Ie) star-delta at AC-3, 400 V	20 A
Rated operational current (Ie) star-delta at AC-3, 500 V	15.6 A
Rated operational current (le) star-delta at AC-3, 690 V	8.5 A
Rated operational power at AC-3, 415 V, 50 Hz	5.5 kW
Rated operational power at AC-3, 500 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 uninterrupted current (Iu)	20 A
Uninterrupted current	Rated uninterrupted current lu is specified for max. cross-section.

Rated conditional short-circuit current (Iq)	6 kA
Rated short-time withstand current (Icw)	320 A, Contacts, 1 second
Short-circuit current rating (basic rating)	5 kA, SCCR (UL/CSA) 50A, max. Fuse, SCCR (UL/CSA)
Short-circuit current rating (high fault)	20 A, Class J, max. Fuse, SCCR (UL/CSA) 10 kA, SCCR (UL/CSA)
Short-circuit protection rating	20 A gG/gL, Fuse, Contacts
Switching capacity	
Load rating	1.3 x l# (with intermittent operation class 12, 60 % duty factor) $2 \times l\#$ (with intermittent operation class 12, 25 % 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
Number of contacts in series at DC-23A, 48 V	2
Number of contacts in series at DC-23A, 60 V	3
Number of contacts in series at DC-23A, 120 V	3
Number of contacts in series at DC-23A, 240 V	5
Switching capacity (main contacts, general use)	16 A, Rated uninterrupted current max. (UL/CSA)
Switching capacity (auxiliary contacts, general use)	10A, IU, (UL/CSA)
Switching capacity (auxiliary contacts, pilot duty)	P300 (UL/CSA) A600 (UL/CSA)
Rated making capacity up to 690 V (cos phi to IEC/EN 60947-3)	130 A
Voltage per contact pair in series	60 V
Motor rating	
Assigned motor power at 115/120 V, 60 Hz, 1-phase	0.5 HP
Assigned motor power at 200/208 V, 60 Hz, 1-phase	1 HP
Assigned motor power at 200/208 V, 60 Hz, 3-phase	3 HP
Assigned motor power at 230/240 V, 60 Hz, 1-phase	1.5 HP
Assigned motor power at 230/240 V, 60 Hz, 3-phase	3 HP
Assigned motor power at 460/480 V, 60 Hz, 3-phase	7.5 HP
Assigned motor power at 575/600 V, 60 Hz, 3-phase	7.5 HP
Contacts	
Control circuit reliability	1 failure per 100,000 switching operations statistically determined, at 24 V DC, 10 mA)
Number of contacts	1
Actuator	
Actuator function	With 0 (Off) position Maintained
Actuator type	Toggle
Number of switch positions	2
Design verification	
Equipment heat dissipation, current-dependent Pvid	0 W
Heat dissipation capacity Pdiss	0 W
Heat dissipation per pole, current-dependent Pvid	0.6 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	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 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.

## **Technical data ETIM 9.0**

Low-voltage industrial components (EG000017) / Control switch (EC002611)

Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Control switch (ecl@ss13-27-37-14-14 [ACN998016])

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Type of switch		On/Off switch
Number of poles		1
Max. rated operation voltage Ue AC	V	690
Rated permanent current lu	Α	20
Number of switch positions		2
With zero (off) position		Yes
With retraction in 0-position		No
Device construction		Built-in device
Width in number of modular spacings		4
Suitable for floor mounting		Yes
Suitable for front mounting		No
Suitable for distribution board installation		Yes
Suitable for intermediate mounting		No
Complete device in housing		No
Type of control element		Toggle
Front shield size		48x48 mm
Degree of protection (IP), front side		IP30
Degree of protection (NEMA), front side		2