

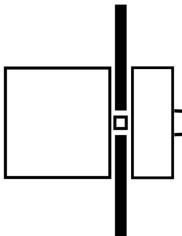
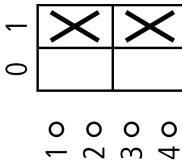
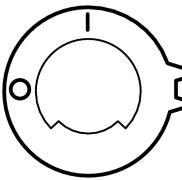


**Control circuit switches, TM, 10 A, flush mounting, Contacts: 2, Emergency switching off function, With red rotary handle and yellow locking ring, Lockable in the 0 (Off) position**

**EATON**  
Powering Business Worldwide™

**Part no.** **TM-1-8291/E/SVB**  
**Catalog No.** **045478**

## Delivery program

Product range	Control switches		
Part group reference	TM		
Basic function	Control circuit switches		
Stop Function	Emergency switching off function		
Notes	With red rotary handle and yellow locking ring up to 250 V AC per contact		
Contacts	2		
Locking facility	Lockable in the 0 (Off) position		
Degree of Protection	Front IP65		
Design	flush mounting		
			
Contact sequence	 		
Switching angle	° 90		
Design number	8291		
Front plate no.			
<b>Motor rating AC-23A, 50 - 60 Hz</b>			
400 V	P	kW	3
Rated uninterrupted current	I <sub>u</sub>	A	10
Note on rated uninterrupted current I <sub>u</sub>	Rated uninterrupted current I <sub>u</sub> is specified for max. cross-section.		
Number of contact units	contact unit(s)	1	

## Technical data

### General

Standards	IEC/EN 60947, VDE 0660, CSA, UL Control switch as per IEC/EN 60947-5-1 Auxiliary switch as per IEC/EN 60947-5-1		
Climatic proofing	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30		
Ambient temperature			
Open	°C	-25 - +50	
Overvoltage category/pollution degree		III/3	
Rated impulse withstand voltage	U <sub>imp</sub>	V AC	4000

Mounting position		As required
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## Contacts

Electrical characteristics		
Rated operational voltage	U <sub>e</sub>	V AC
Rated uninterrupted current	I <sub>u</sub>	A
Note on rated uninterrupted current I <sub>u</sub>		Rated uninterrupted current I <sub>u</sub> is specified for max. cross-section.
Short-circuit rating		
Fuse		A gG/gL

## Switching capacity

Safe isolation to EN 61140		
Current heat loss per contact at I <sub>e</sub>		W
Current heat loss per auxiliary circuit at I <sub>e</sub> (AC-15/230 V)		CO
Lifespan, mechanical	Operations	x 10 <sup>6</sup>
Maximum operating frequency	Operations/h	
AC		
AC-21A		
Rated operational current switch		
400 V 415 V	I <sub>e</sub>	A
AC-23A		
Motor rating AC-23A, 50 - 60 Hz	P	kW
400 V 415 V	P	kW
Control circuit reliability at 24 V DC, 10 mA	Fault probability	H <sub>F</sub>

## Terminal capacities

Solid or stranded		mm <sup>2</sup>	1 x 1,5 2 x 1,5
Flexible with ferrules to DIN 46228		mm <sup>2</sup>	1 x 1,0 2 x 1,0
Flexible		mm <sup>2</sup>	1 x 1,5 2 x 1,5
Terminal screw			M2.5
Tightening torque for terminal screw		Nm	0.4

## Rating data for approved types

Contacts		
Rated operational voltage	U <sub>e</sub>	V AC
Rated uninterrupted current max.		
Main conducting paths		
General use		A
Auxiliary contacts		
General Use	I <sub>u</sub>	A
Pilot Duty		A 300
Switching capacity		
Maximum motor rating		
Single-phase		
120 V AC		HP
240 V AC		HP
277 V AC		HP
Three-phase		
120 V AC		HP
240 V AC		HP
Terminal capacity		
Solid or flexible conductor with ferrule		AWG
Terminal screw		
Tightening torque		lb-in

## Design verification as per IEC/EN 61439

Technical data for design verification	
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Rated operational current for specified heat dissipation	$I_n$	A	10
Heat dissipation per pole, current-dependent	$P_{vid}$	W	0.15
Equipment heat dissipation, current-dependent	$P_{vid}$	W	0
Static heat dissipation, non-current-dependent	$P_{vs}$	W	0
Heat dissipation capacity	$P_{diss}$	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	50
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
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 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric 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 Insulation properties			
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 7.0

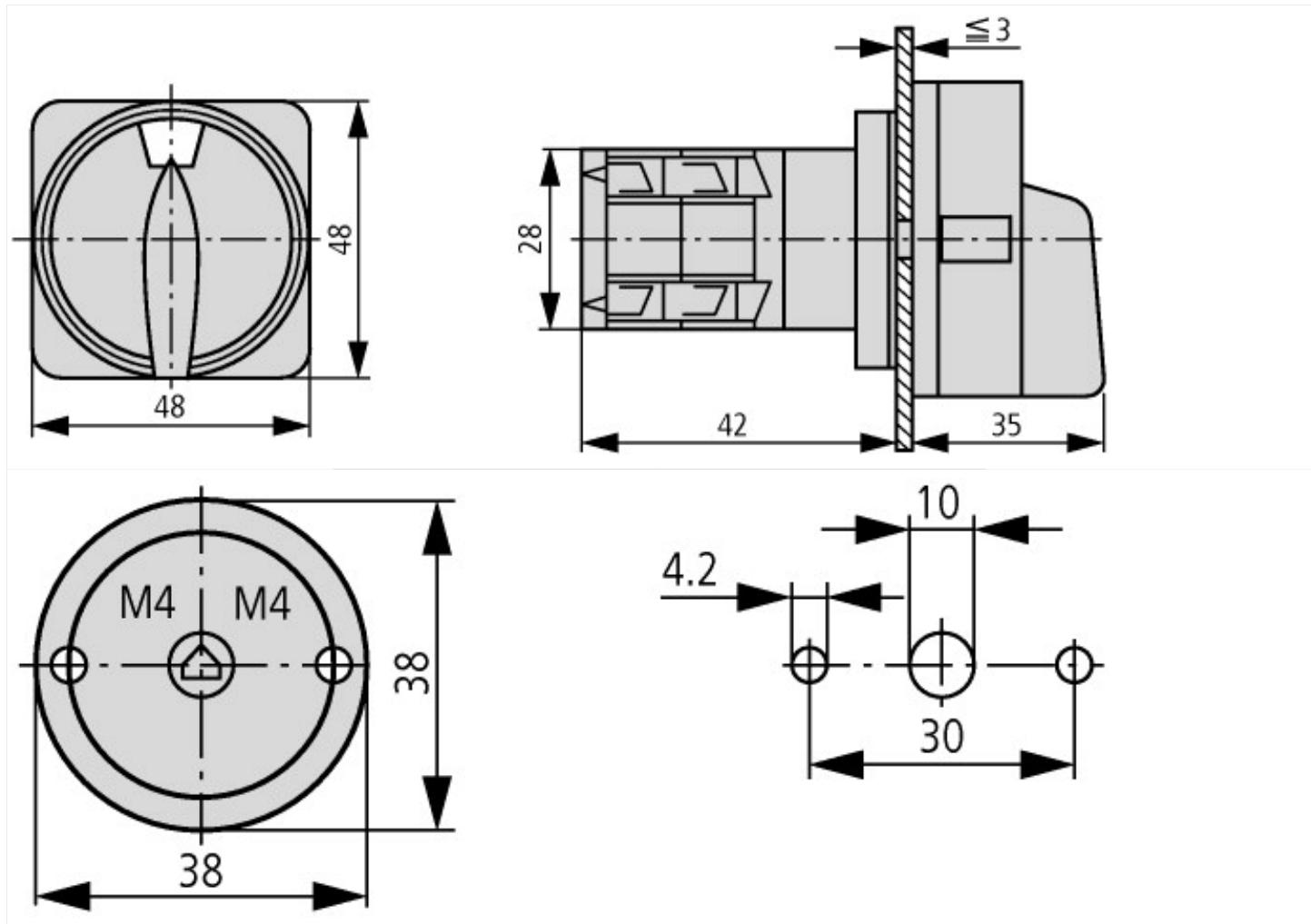
Low-voltage industrial components (EG000017) / Switch disconnector (EC000216)		
Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Switch disconnector (ecl@ss10.0.1-27-37-14-03 [AKF060013])		
Version as main switch		Yes
Version as maintenance-/service switch		Yes
Version as safety switch		No
Version as emergency stop installation		Yes
Version as reversing switch		No
Number of switches		1
Max. rated operation voltage Ue AC	V	500
Rated operating voltage	V	500 - 500
Rated permanent current $I_{lu}$	A	10
Rated permanent current at AC-23, 400 V	A	6.6
Rated permanent current at AC-21, 400 V	A	0
Rated operation power at AC-3, 400 V	kW	0
Rated short-time withstand current $I_{cw}$	kA	0
Rated operation power at AC-23, 400 V	kW	0
Switching power at 400 V	kW	0
Conditioned rated short-circuit current $I_{cq}$	kA	0

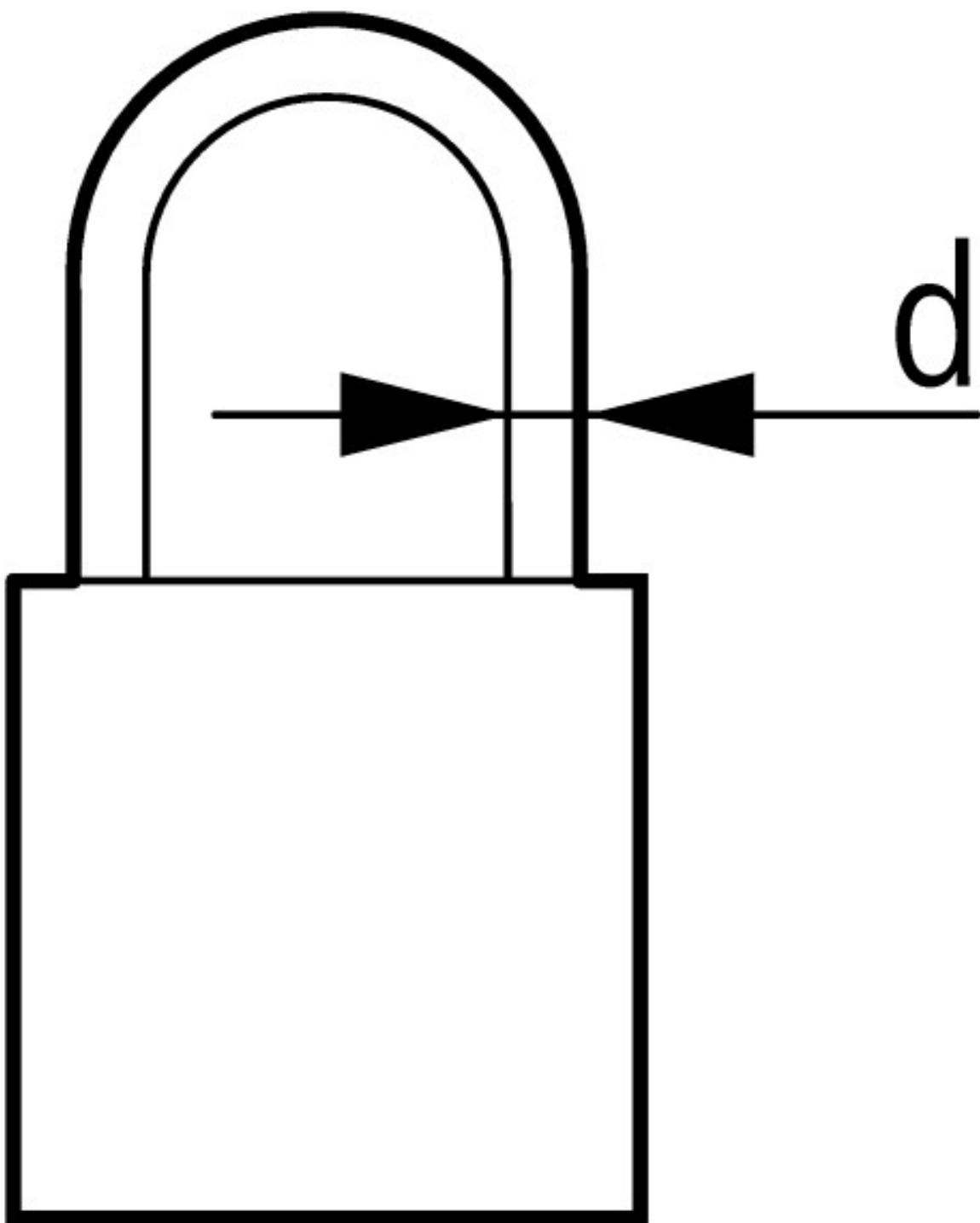
Number of poles	2
Number of auxiliary contacts as normally closed contact	0
Number of auxiliary contacts as normally open contact	0
Number of auxiliary contacts as change-over contact	0
Motor drive optional	No
Motor drive integrated	No
Voltage release optional	No
Device construction	Built-in device fixed built-in technique
Suitable for ground mounting	No
Suitable for front mounting 4-hole	Yes
Suitable for front mounting centre	No
Suitable for distribution board installation	No
Suitable for intermediate mounting	No
Colour control element	Red
Type of control element	Door coupling rotary drive
Interlockable	Yes
Type of electrical connection of main circuit	Screw connection
Degree of protection (IP), front side	IP65
Degree of protection (NEMA)	Other

## Approvals

Product Standards	UL 508; CSA-C22.2 No. 14-05; CSA-C22.2 No. 94; IEC/EN 60947-3; CE marking
UL File No.	E36332
UL Category Control No.	NLRV
CSA File No.	UL report applies to both US and Canada
North America Certification	UL listed, certified by UL for use in Canada
Degree of Protection	IEC: IP65; UL/CSA Type: –

## Dimensions





2 padlocks with a diameter of 4 mm or 1 padlock with a diameter of 6 mm

## Additional product information (links)

Display flip catalog page.

<http://ecat.moeller.net/flip-cat/?edition=K115A&startpage=12>

Technical overview cam switch, switch-disconnector

<http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&startpage=4.2>

System overview cam switch T

<http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&startpage=4.4>

System overview switch-disconnector P

<http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&startpage=4.6>

Key to part numbers Cam switch

<http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&startpage=4.8>

Key to part numbers Switch-disconnector

<http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&startpage=4.8>

Switches for ATEX

<http://www.coopercrouse-hinds.eu/en/products/25-ex-safety-and-main-current-switches.html>