

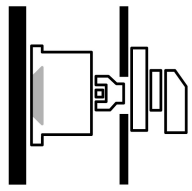
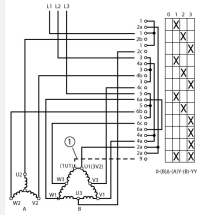
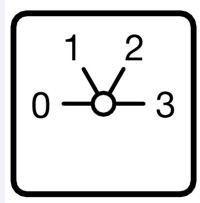


**Multi-speed switches, T3, 32 A, rear mounting, 6 contact unit(s), Contacts: 12, 60 °, maintained, With 0 (Off) position, 0-1-2-3, SOND 30, Design number 158**

**Part no. T3-6-158/Z**  
**Catalog No. 004339**

Similar to illustration

### Delivery program

Product range			Control switches
Part group reference			T3
Basic function			Multi-speed switches with black thumb grip and front plate
Notes			SOND 30
Contacts			12
Degree of Protection			Front IP65
Design			rear mounting 
Contact sequence			
switching function			3 speeds, 2 separate windings
Switching angle		°	60
Switching performance			maintained With 0 (Off) position
Design number			158
Front plate no.			 <b>FS 616</b>
front plate			0-1-2-3
<b>Motor rating AC-23A, 50 - 60 Hz</b>			
400 V	P	kW	15
Rated uninterrupted current	I <sub>u</sub>	A	32
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)	6

### Technical data

Standards			IEC/EN 60947, VDE 0660, IEC/EN 60204, CSA, UL Switch-disconnector according to IEC/EN 60947-3
Climatic proofing			Damp heat, constant, to IEC 60068-2-78

			Damp heat, cyclic, to IEC 60068-2-30
Ambient temperature			
Open		°C	-25 - +50
Enclosed		°C	-25 - +40
Overvoltage category/pollution degree			III/3
Rated impulse withstand voltage	$U_{imp}$	V AC	6000
Mechanical shock resistance		g	15
Mounting position			As required

## Contacts

Electrical characteristics			
Rated operational voltage	$U_e$	V AC	690
Rated uninterrupted current	$I_u$	A	32
Note on rated uninterrupted current $I_u$			Rated uninterrupted current $I_u$ is specified for max. cross-section.
Load rating with intermittent operation, class 12			
AB 25 % DF		$\times I_e$	2
AB 40 % DF		$\times I_e$	1.6
AB 60 % DF		$\times I_e$	1.3
Short-circuit rating			
Fuse		A gG/gL	35
Rated short-time withstand current (1 s current)	$I_{cw}$	$A_{rms}$	650
Note on rated short-time withstand current $I_{cw}$			Current for a time of 1 second
Rated conditional short-circuit current	$I_q$	kA	1

## Switching capacity

cos $\phi$ rated making capacity as per IEC 60947-3		A	320
Rated breaking capacity cos $\phi$ to IEC 60947-3		A	
230 V		A	260
400/415 V		A	260
500 V		A	240
690 V		A	170
Safe isolation to EN 61140			
between the contacts		V AC	440
Current heat loss per contact at $I_e$		W	1.1
Current heat loss per auxiliary circuit at $I_e$ (AC-15/230 V)		CO	1.1
Lifespan, mechanical	Operations	$\times 10^6$	> 0.5
Maximum operating frequency	Operations/h		1200
AC			
AC-3			
Rating, motor load switch	P	kW	
220 V 230 V	P	kW	5.5
230 V Star-delta	P	kW	7.5
400 V 415 V	P	kW	11
400 V Star-delta	P	kW	15
500 V	P	kW	15
500 V Star-delta	P	kW	18.5
690 V	P	kW	11
690 V Star-delta	P	kW	22
Rated operational current motor load switch			
230 V	$I_e$	A	23.7
230 V star-delta	$I_e$	A	32
400V 415 V	$I_e$	A	23.7
400 V star-delta	$I_e$	A	32
500 V	$I_e$	A	23.7
500 V star-delta	$I_e$	A	32
690 V	$I_e$	A	14.7

690 V star-delta	I <sub>e</sub>	A	25.5
<b>AC-21A</b>			
Rated operational current switch			
440 V	I <sub>e</sub>	A	32
<b>AC-23A</b>			
Motor rating AC-23A, 50 - 60 Hz			
230 V	P	kW	7.5
400 V 415 V	P	kW	15
500 V	P	kW	15
690 V	P	kW	15
Rated operational current motor load switch			
230 V	I <sub>e</sub>	A	32
400 V 415 V	I <sub>e</sub>	A	32
500 V	I <sub>e</sub>	A	26.4
690 V	I <sub>e</sub>	A	17
<b>DC</b>			
DC-1, Load-break switches L/R = 1 ms			
Rated operational current			
	I <sub>e</sub>	A	25
Voltage per contact pair in series			
		V	60
<b>DC-21A</b>			
Rated operational current			
	I <sub>e</sub>	A	1
Contacts			
		Quantity	1
<b>DC-23A, motor load switch L/R = 15 ms</b>			
24 V			
Rated operational current			
	I <sub>e</sub>	A	25
Contacts			
		Quantity	1
48 V			
Rated operational current			
	I <sub>e</sub>	A	25
Contacts			
		Quantity	2
60 V			
Rated operational current			
	I <sub>e</sub>	A	25
Contacts			
		Quantity	3
120 V			
Rated operational current			
	I <sub>e</sub>	A	12
Contacts			
		Quantity	3
240 V			
Rated operational current			
	I <sub>e</sub>	A	5
Contacts			
		Quantity	5
<b>DC-13, Control switches L/R = 50 ms</b>			
Rated operational current			
	I <sub>e</sub>	A	20
Voltage per contact pair in series			
		V	24
Control circuit reliability at 24 V DC, 10 mA			
	Fault probability	H <sub>F</sub>	< 10 <sup>-5</sup> , < 1 failure in 100,000 switching operations

### Terminal capacities

Solid or stranded		mm <sup>2</sup>	1 x (1 - 6) 2 x (1 - 6)
Flexible with ferrules to DIN 46228		mm <sup>2</sup>	1 x (0.75 - 4) 2 x (0.75 - 4)
Terminal screw			M4
Tightening torque for terminal screw		Nm	1.6

### Technical safety parameters:

<b>Notes</b>			B10 <sub>d</sub> values as per EN ISO 13849-1, table C1
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### Rating data for approved types

<b>Contacts</b>			
Rated operational voltage			
	U <sub>e</sub>	V AC	600
Rated uninterrupted current max.			

Main conducting paths			
General use		A	25
Auxiliary contacts			
General Use	I <sub>u</sub>	A	10
Pilot Duty			A 600
Switching capacity			
Maximum motor rating			
Single-phase			
120 V AC		HP	1.5
200 V AC		HP	3
240 V AC		HP	3
Three-phase			
200 V AC		HP	3
240 V AC		HP	3
480 V AC		HP	7.5
600 V AC		HP	10
Short Circuit Current Rating			
Basic Rating		kA	5
max. Fuse		A	40
High fault rating		kA	10
max. Fuse		A	40, Class J
Terminal capacity			
Solid or flexible conductor with ferrule		AWG	14 - 10
Terminal screw			M4
Tightening torque		lb-in	17.7

## Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I <sub>n</sub>	A	32
Heat dissipation per pole, current-dependent	P <sub>vid</sub>	W	1.1
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	0
Static heat dissipation, non-current-dependent	P <sub>vs</sub>	W	0
Heat dissipation capacity	P <sub>diss</sub>	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) / Off-load switch (EC001105)

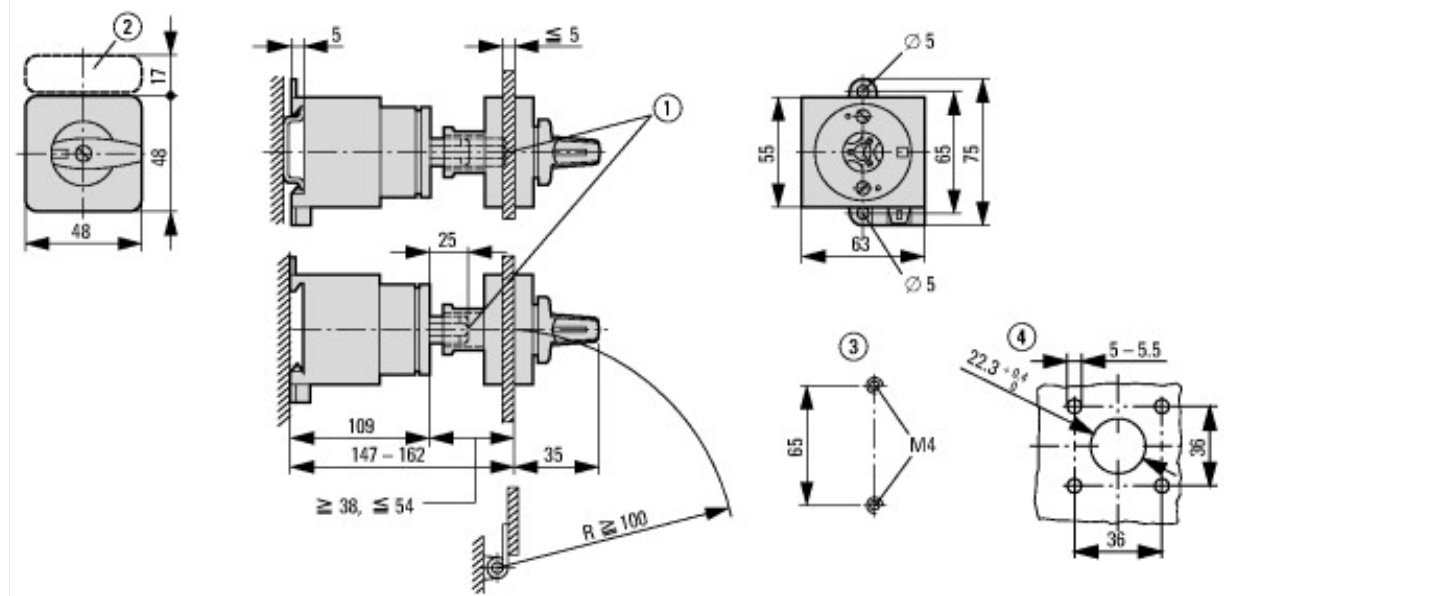
Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Changeover switch (ec!@ss10.0.1-27-37-14-05 [AKF062013])

Model			Pole switch
Number of poles			3
With 0 (off) position			Yes
With retraction in 0-position			No
Rated permanent current I <sub>u</sub>		A	32
Rated operation current I <sub>e</sub> at AC-3, 400 V		A	23.7
Rated operation power at AC-3, 400 V		kW	12
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 ground mounting			Yes
Suitable for front mounting 4-hole			No
Suitable for distribution board installation			No
Suitable for intermediate mounting			Yes
Complete device in housing			No
Material housing			Plastic
Type of control element			Toggle
Type of electrical connection of main circuit			Screw connection

## Approvals

Product Standards			UL 60947-4-1; CSA - C22.2 No. 60947-4-1-14; CSA-C22.2 No. 94; IEC/EN 60947-3; CE marking
UL File No.			E36332
UL Category Control No.			NLRV
CSA File No.			12528
CSA Class No.			3211-05
North America Certification			UL listed, CSA certified
Suitable for			Branch circuits, suitable as motor disconnect
Degree of Protection			IEC: IP65; UL/CSA Type 1, 12

## Dimensions



- ① Shaft extension with ZAV-T0 possible, max.  $4 \times 25 = 100$  mm
- ② ZFS-... Label mount not included as standard
- ③ Drilling dimensions base
- ④ Drilling dimensions door

## Additional product information (links)

### IL03801021Z (AWA1150-0587) Cam switches: rear mounting

IL03801021Z (AWA1150-0587) Cam switches: rear mounting	<a href="ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03801021Z2018_05.pdf">ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03801021Z2018_05.pdf</a>
Display flip catalog page.	<a href="http://ecat.moeller.net/flip-cat/?edition=K115A&amp;startpage=61">http://ecat.moeller.net/flip-cat/?edition=K115A&amp;startpage=61</a>
Technical overview cam switch, switch-disconnector	<a href="http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&amp;startpage=4.2">http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&amp;startpage=4.2</a>
System overview cam switch T	<a href="http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&amp;startpage=4.4">http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&amp;startpage=4.4</a>
System overview switch-disconnector P	<a href="http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&amp;startpage=4.6">http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&amp;startpage=4.6</a>
Key to part numbers Cam switch	<a href="http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&amp;startpage=4.8">http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&amp;startpage=4.8</a>
Key to part numbers Switch-disconnector	<a href="http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&amp;startpage=4.8">http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&amp;startpage=4.8</a>
Switches for ATEX	<a href="http://www.coopercrouse-hinds.eu/en/products/25-ex-safety-and-main-current-switches.html">http://www.coopercrouse-hinds.eu/en/products/25-ex-safety-and-main-current-switches.html</a>
Ordering form for SOND switches and SOND front plates(DE_EN)	<a href="ftp://ftp.moeller.net/DOCUMENTATION/PDF/MZ008005ZU_Orderform_Customized_Switch.pdf">ftp://ftp.moeller.net/DOCUMENTATION/PDF/MZ008005ZU_Orderform_Customized_Switch.pdf</a>
Ordering form for SOND switches and SOND front plates(DE_EN)	<a href="ftp://ftp.moeller.net/DOCUMENTATION/PDF/MZ008006ZU_Orderform_Customized_Switch.pdf">ftp://ftp.moeller.net/DOCUMENTATION/PDF/MZ008006ZU_Orderform_Customized_Switch.pdf</a>