### **DATASHEET - T5-3-8212/I5**



Changeoverswitches, T5, 100 A, surface mounting, 3 contact unit(s), Contacts: 6, 60  $^{\circ}$ , maintained, With 0 (Off) position, 1-0-2, design no. 8212



Part no. T5-3-8212/I5 Catalog No. 207266

EL-Nummer (Norway) 1456951

Similar to illustration

Delivery program			
Product range			Control switches
Part group reference			T5
Basic function			Changeoverswitches
			with black thumb grip and front plate
Contacts			6
Degree of Protection			IP65
			totally insulated
Design			surface mounting
Contact sequence			~ × × × × × × × × × × × × × × × × × × ×
Switching angle		0	60
Switching performance			maintained With 0 (Off) position
Design number			8212
Front plate no.			FS 684
front plate			1-0-2
Motor rating AC-23A, 50 - 60 Hz			
400 V	P	kW	55
Rated uninterrupted current	l <sub>u</sub>	Α	100
Note on rated uninterrupted current !u			Rated uninterrupted current $\mathbf{I}_{\mathbf{u}}$ is specified for max. cross-section.
Number of contact units		contact unit(s)	3

# **Technical data**

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Standards	IEC/EN 60947, VDE 0660, IEC/EN 60204 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			
Enclosed		°C	-25 - +40
Overvoltage category/pollution degree			III/3
Rated impulse withstand voltage	U <sub>imp</sub>	V AC	6000
Mechanical shock resistance		g	15
Mounting position			As required
Contacts			
Electrical characteristics			
Rated operational voltage	U <sub>e</sub>	V AC	690
Rated uninterrupted current	lu	Α	100
Note on rated uninterrupted current $!_{u}$			Rated uninterrupted current $\boldsymbol{I}_{\boldsymbol{u}}$ is specified for max. cross-section.
Load rating with intermittent operation, class 12			
AB 25 % DF		x I <sub>e</sub>	2
AB 40 % DF		x I <sub>e</sub>	1.6
AB 60 % DF		x I <sub>e</sub>	1.3
Short-circuit rating			
Fuse		A gG/gL	100
Rated short-time withstand current (1 s current)	I <sub>cw</sub>	A <sub>rms</sub>	1700
Note on rated short-time withstand current lcw			Current for a time of 1 second
Rated conditional short-circuit current	Iq	kA	2
Switching capacity			
$\cos\phi$ rated making capacity as per IEC 60947-3		Α	950
Rated breaking capacity $\cos\phi$ to IEC 60947-3		Α	
230 V		Α	760
400/415 V		Α	740
500 V		Α	590
690 V		Α	420
Safe isolation to EN 61140			
between the contacts		V AC	440
Current heat loss per contact at I <sub>e</sub>		W	7.5
Current heat loss per auxiliary circuit at I <sub>e</sub> (AC-15/230 V)		CO	7.5
Lifespan, mechanical	Operations	x 10 <sup>6</sup>	> 0.5
Maximum operating frequency	Operations/h		1200
AC			
AC-3			
Rating, motor load switch	Р	kW	
220 V 230 V	P	kW	22
230 V Star-delta	P	kW	30
400 V 415 V	P	kW	30
400 V Star-delta	P	kW	45
500 V	P	kW	30
500 V Star-delta	P	kW	45
690 V	P	kW	15
690 V Star-delta	P	kW	22
Rated operational current motor load switch			
230 V	l <sub>e</sub>	Α	71
230 V star-delta	I <sub>e</sub>	Α	100
400V 415 V	I <sub>e</sub>	Α	55
400 V star-delta	I <sub>e</sub>	Α	95.3
500 V	I <sub>e</sub>	Α	44
500 V star-delta	I <sub>e</sub>	Α	76.2
690 V	I <sub>e</sub>	Α	17
690 V star-delta	I <sub>e</sub>	A	29.4
AC-23A	G		

Motor rating AC-23A, 50 - 60 Hz	P	kW	
230 V	P	kW	30
400 V 415 V	P	kW	55
500 V	P	kW	37
690 V	P	kW	30
Rated operational current motor load switch			
230 V	l <sub>e</sub>	Α	100
400 V 415 V	I <sub>e</sub>	Α	100
500 V	I <sub>e</sub>	Α	55
690 V	l <sub>e</sub>	Α	32
DC			
DC-1, Load-break switches L/R = 1 ms			
Rated operational current	l <sub>e</sub>	Α	80
Voltage per contact pair in series		V	60
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 (2,5 - 35) 2 x (2,5 - 16)
Flexible with ferrules to DIN 46228		mm <sup>2</sup>	1 x (1 - 25) 2 x (1.5 - 10)
Terminal screw			M6
Tightening torque for terminal screw		Nm	4
Technical safety parameters:			
Notes			B10 <sub>d</sub> values as per EN ISO 13849-1, table C1
Rating data for approved types			
Terminal capacity			
Terminal screw			M6
Tightening torque		lb-in	35.32

# **Design verification as per IEC/EN 61439**

echnical data for design verification			
Rated operational current for specified heat dissipation	In	Α	100
Heat dissipation per pole, current-dependent	P <sub>vid</sub>	W	7.5
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	40
C/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.

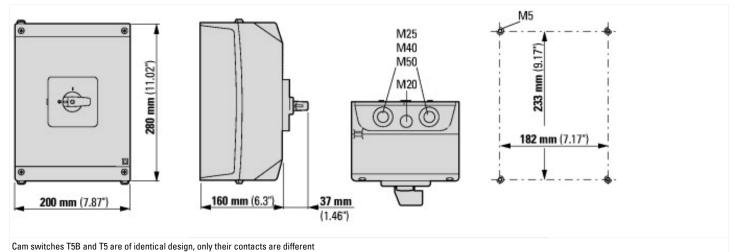
#### **Technical data ETIM 7.0**

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 (ecl@ss10.0.1-27-37-14-05 [AKF062013])

Number of poles  With 0 (off) position  With retraction in 0-position  Rated permanent current lu Rated permanent current lu at AC-3,400 V  Rated operation power at AC-3,400 V  Rated operation (IP), front side  Degree of protection (NEMA), front side  Number of auxiliary contacts as normally closed contact  Number of auxiliary contacts as normally open contact  Number of auxiliary contacts as normally open contact  Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as normally open contact  N			
With 0 (off) position  With retraction in 0-position  Rated permanent current lu  Rated permanent current le at AC-3, 400 V  Rated operation power at AC-3, 400 V  Rated operation (IP), front side  Degree of protection (NEMA), front side  Degree of protection (NEMA), front side  Number of auxiliary contacts as normally closed contact  Number of auxiliary contacts as normally open contact  Number of auxiliary contacts as normally open contact  Number of auxiliary contacts as change-over contact  No  No  Suitable for front mounting 4-hole  No  Suitable for distribution board installation  No  Complete device in housing  Material housing  Type of control element  Type of control element  No  Type of control element	Model		Reverser
With retraction in 0-position Rated permanent current lu Rated operation current le at AC-3, 400 V Rated operation power at AC-3, 400 V Rated operation power at AC-3, 400 V Regree of protection (IP), front side Degree of protection (NEMA), front side Degree of protection (NEMA), front side Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact Vitable for ground mounting Suitable for ground mounting Suitable for front mounting 4-hole Suitable for intermediate mounting Suitable for intermediate mounting Complete device in housing Material housing Type of control element Type of con	Number of poles		3
Rated permanent current lu Rated operation current le at AC-3, 400 V Rated operation power at AC-3, 400 V Reted operation power at AC-3, 400 V Degree of protection (IP, front side Degree of protection (NEMA), front side Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact  Suitable for ground mounting Suitable for front mounting 4-hole Suitable for intermediate mounting Suitable for intermediate mounting Complete device in housing Material housing Type of control element  Rated operation current le at AC-3, 400 V RW SUITABLE SU	With 0 (off) position		Yes
Rated operation current le at AC-3, 400 V Rated operation power at AC-3, 400 V Regree of protection (IP), front side Degree of protection (NEMA), front side Degree of protection (NEMA), front side Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as normally open contact  Number of a	With retraction in 0-position		No
Rated operation power at AC-3, 400 V  Degree of protection (IP), front side  Degree of protection (NEMA), front side  Number of auxiliary contacts as normally closed contact  Number of auxiliary contacts as normally open contact  Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as normally open contact  Number of auxiliary contacts	Rated permanent current lu	Α	100
Degree of protection (IP), front side  Degree of protection (NEMA), front side  Number of auxiliary contacts as normally closed contact  Number of auxiliary contacts as normally open contact  Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as change-over contact  Suitable for ground mounting  Suitable for ground mounting  Suitable for front mounting 4-hole  No  Suitable for distribution board installation  Suitable for intermediate mounting  Complete device in housing  Material housing  Type of control element  Type of control element  No  Plastic  Type of control element	Rated operation current le at AC-3, 400 V	Α	55
Degree of protection (NEMA), front side  Number of auxiliary contacts as normally closed contact  Number of auxiliary contacts as normally open contact  Number of auxiliary contacts as normally open contact  Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as change-over contact  Suitable for ground mounting  Suitable for front mounting 4-hole  Suitable for distribution board installation  Suitable for intermediate mounting  Complete device in housing  Material housing  Type of control element  Other  O	Rated operation power at AC-3, 400 V	kW	30
Number of auxiliary contacts as normally closed contact  Number of auxiliary contacts as normally open contact  Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as normally open contact  No  Suitable for ground mounting  No  Complete device in housing  No  Complete device in housing  No  Plastic  Toggle	Degree of protection (IP), front side		IP65
Number of auxiliary contacts as normally open contact  Number of auxiliary contacts as change-over contact  Suitable for ground mounting  Suitable for front mounting 4-hole  Suitable for distribution board installation  Suitable for intermediate mounting  Complete device in housing  Material housing  Type of control element  O  O  O  O  O  O  O  O  O  O  O  O  O	Degree of protection (NEMA), front side		Other
Number of auxiliary contacts as change-over contact  Suitable for ground mounting  Suitable for front mounting 4-hole  Suitable for distribution board installation  Suitable for intermediate mounting  Complete device in housing  Material housing  Type of control element  O  Yes  Toggle	Number of auxiliary contacts as normally closed contact		0
Suitable for ground mounting Suitable for front mounting 4-hole Suitable for distribution board installation Suitable for intermediate mounting Complete device in housing Material housing Type of control element  Yes  Yes  Yes  Plastic Toggle	Number of auxiliary contacts as normally open contact		0
Suitable for front mounting 4-hole Suitable for distribution board installation Suitable for intermediate mounting Complete device in housing Material housing Type of control element  No  No  Yes  Plastic  Toggle	Number of auxiliary contacts as change-over contact		0
Suitable for distribution board installation  Suitable for intermediate mounting  Complete device in housing  Material housing  Type of control element  No  Yes  Plastic  Toggle	Suitable for ground mounting		Yes
Suitable for intermediate mounting  No  Complete device in housing  Material housing  Type of control element  No  Yes  Plastic  Toggle	Suitable for front mounting 4-hole		No
Complete device in housing Yes Material housing Plastic Type of control element Toggle	Suitable for distribution board installation		No
Material housing Plastic Type of control element Toggle	Suitable for intermediate mounting		No
Type of control element Toggle	Complete device in housing		Yes
	Material housing		Plastic
Type of electrical connection of main circuit Screw connection	Type of control element		Toggle
	Type of electrical connection of main circuit		Screw connection

### **Dimensions**



# **Additional product information (links)**

<u> </u>	
Display flip catalog page.	http://ecat.moeller.net/flip-cat/?edition=K115A&startpage=135
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