



**038873**  
**T0-2-1/EA/SVB**

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## DELIVERY PROGRAM

Product range  
Main switch  
maintenance switch  
Repair switch

Part group reference  
T0

Stop Function  
Emergency switching off function

With red rotary handle and yellow locking ring

Number of poles  
3 pole

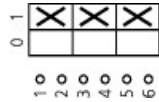
Locking facility  
Lockable in the 0 (Off) position

Degree of Protection  
Front IP65

Design  
flush mounting



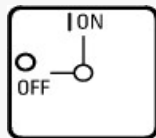
Contact sequence



Switching angle  
90°

Design number  
1

Function



**Motor rating AC-23A, 50 - 60 Hz [P]**

400 V [P]  
5.5 kW

Rated uninterrupted current [ $I_u$ ]  
20 A

Note on rated uninterrupted current  $I_u$   
Rated uninterrupted current  $I_u$  is specified for max.  
cross-section.

Number of contact units  
2 contact unit(s)

## TECHNICAL DATA

**General**

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  
-25 - +50 °C

Ambient temperature  
Enclosed  
-25 - +40 °C

Overvoltage category/pollution degree  
III/3

Rated impulse withstand voltage [ $U_{imp}$ ]  
6000 V AC

Mechanical shock resistance  
15 g

Mounting position  
As required

## Contacts

Mechanical variables  
Number of poles  
3 pole

Electrical characteristics  
Rated operational voltage [ $U_e$ ]  
690 V AC

Electrical characteristics  
Rated uninterrupted current [ $I_u$ ]  
20 A

Electrical characteristics  
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  
 $2 \times I_e$

Load rating with intermittent operation, class 12  
AB 40 % DF  
 $1.6 \times I_e$

Load rating with intermittent operation, class 12  
AB 60 % DF  
 $1.3 \times I_e$

Short-circuit rating  
Fuse  
20 A gG/gL

Rated short-time withstand current (1 s current)  
[ $I_{cw}$ ]  
 $320 A_{rms}$

Note on rated short-time withstand current  $I_{cw}$   
Current for a time of 1 second

Rated conditional short-circuit current [ $I_q$ ]  
6 kA

## Switching capacity

$\cos \phi$  rated making capacity as per IEC 60947-3  
130 A

Rated breaking capacity  $\cos \phi$  to IEC 60947-3  
230 V  
100 A

Rated breaking capacity  $\cos \phi$  to IEC 60947-3  
400/415 V  
110 A

Rated breaking capacity  $\cos \phi$  to IEC 60947-3  
500 V  
80 A

Rated breaking capacity  $\cos \phi$  to IEC 60947-3  
690 V  
60 A

Safe isolation to EN61140  
between the contacts  
440 V AC

Safe isolation to EN61140  
Current heat loss per contact at  $I_e$   
0.6 W

Safe isolation to EN61140  
Current heat loss per auxiliary circuit at  $I_e$  (AC-  
15/230 V)  
0.6 W

Lifespan, mechanical [Operations]  
> 0.4 x 10<sup>6</sup>

Maximum operating frequency [Operations/h]  
1200

AC  
AC-3  
Rating, motor load switch [P]  
220 V 230 V [P]  
3 kW

AC  
AC-3  
Rating, motor load switch [P]  
230 V Star-delta [P]  
5.5 kW

AC  
AC-3  
Rating, motor load switch [P]  
400 V 415 V [P]  
5.5 kW

AC  
AC-3  
Rating, motor load switch [P]  
400 V Star-delta [P]  
7.5 kW

AC  
AC-3  
Rating, motor load switch [P]  
500 V [P]  
5.5 kW

AC  
AC-3  
Rating, motor load switch [P]  
500 V Star-delta [P]  
7.5 kW

AC  
AC-3  
Rating, motor load switch [P]  
690 V [P]  
4 kW

AC  
AC-3  
Rating, motor load switch [P]  
690 V Star-delta [P]  
5.5 kW

AC  
AC-3  
Rated operational current motor load switch  
230 V [ $I_e$ ]  
11.5 A

AC  
AC-3  
Rated operational current motor load switch  
230 V star-delta [ $I_e$ ]  
20 A

AC  
AC-3  
Rated operational current motor load switch  
400V 415 V [ $I_e$ ]  
11.5 A

AC  
AC-3  
Rated operational current motor load switch  
400 V star-delta [ $I_e$ ]  
20 A

AC  
AC-3  
Rated operational current motor load switch  
500 V [ $I_e$ ]  
9 A

AC  
AC-3  
Rated operational current motor load switch  
500 V star-delta [ $I_e$ ]

15.6 A

AC  
AC-3  
Rated operational current motor load switch  
690 V [I<sub>e</sub>]  
4.9 A

AC  
AC-3  
Rated operational current motor load switch  
690 V star-delta [I<sub>e</sub>]  
8.5 A

AC  
AC-23A  
MOTOR rating AC-23A, 50 - 60 Hz [P]  
230 V [P]  
3 kW

AC  
AC-23A  
MOTOR rating AC-23A, 50 - 60 Hz [P]  
400 V 415 V [P]  
5.5 kW

AC  
AC-23A  
MOTOR rating AC-23A, 50 - 60 Hz [P]  
500 V [P]  
7.5 kW

AC  
AC-23A  
MOTOR rating AC-23A, 50 - 60 Hz [P]  
690 V [P]  
5.5 kW

AC  
AC-23A  
Rated operational current motor load switch  
230 V [I<sub>e</sub>]  
13.3 A

AC  
AC-23A  
Rated operational current motor load switch  
400 V 415 V [I<sub>e</sub>]  
13.3 A

AC  
AC-23A

Rated operational current motor load switch  
500 V [ $I_e$ ]  
13.3 A

AC  
AC-23A  
Rated operational current motor load switch  
690 V [ $I_e$ ]  
7.6 A

DC  
DC-1, Load-break switches L/R = 1 ms  
Rated operational current [ $I_e$ ]  
10 A

DC  
DC-1, Load-break switches L/R = 1 ms  
Voltage per contact pair in series  
60 V

DC  
DC-21A [ $I_e$ ]  
Rated operational current [ $I_e$ ]  
1 A

DC  
DC-21A [ $I_e$ ]  
Contacts  
1 Quantity

DC  
DC-23A, motor load switch L/R = 15 ms  
24 V  
Rated operational current [ $I_e$ ]  
10 A

DC  
DC-23A, motor load switch L/R = 15 ms  
24 V  
Contacts  
1 Quantity

DC  
DC-23A, motor load switch L/R = 15 ms  
48 V  
Rated operational current [ $I_e$ ]  
10 A

DC  
DC-23A, motor load switch L/R = 15 ms  
48 V



Contacts  
2 Quantity

DC  
DC-23A, motor load switch L/R = 15 ms  
60 V  
Rated operational current [ $I_{\text{e}}$ ]  
10 A

DC  
DC-23A, motor load switch L/R = 15 ms  
60 V  
Contacts  
3 Quantity

DC  
DC-23A, motor load switch L/R = 15 ms  
120 V  
Rated operational current [ $I_{\text{e}}$ ]  
5 A

DC  
DC-23A, motor load switch L/R = 15 ms  
120 V  
Contacts  
3 Quantity

DC  
DC-23A, motor load switch L/R = 15 ms  
240 V  
Rated operational current [ $I_{\text{e}}$ ]  
5 A

DC  
DC-23A, motor load switch L/R = 15 ms  
240 V  
Contacts  
5 Quantity

DC  
DC-13, Control switches L/R = 50 ms  
Rated operational current [ $I_{\text{e}}$ ]  
10 A

DC  
DC-13, Control switches L/R = 50 ms  
Voltage per contact pair in series  
32 V

Control circuit reliability at 24 V DC, 10 mA [Fault probability]  
<  $10^{-5}$ , < 1 failure in 100,000 switching operations

H<sub>F</sub>

## Terminal capacities

Solid or stranded  
1 x (1 - 2,5)  
2 x (1 - 2,5) mm<sup>2</sup>

Flexible with ferrules to DIN 46228  
1 x (0.75 - 2.5)  
2 x (0.75 - 2.5) mm<sup>2</sup>

Terminal screw  
M3.5

Tightening torque for terminal screw  
1 Nm

## Technical safety parameters:

### Notes

B10<sub>d</sub> values as per EN ISO 13849-1, table C1

## Rating data for approved types

Contacts  
Rated operational voltage [U<sub>e</sub>]  
600 V AC

Contacts  
Rated uninterrupted current max.  
Main conducting paths  
General use  
16 A

Contacts  
Rated uninterrupted current max.  
Auxiliary contacts  
General Use [I<sub>u</sub>]  
10 A

Contacts  
Rated uninterrupted current max.  
Auxiliary contacts  
Flot Duty  
A 600  
P 300

Switching capacity  
Maximum motor rating  
Single-phase  
120 V AC  
0.5 HP

Switching capacity  
Maximum motor rating  
Single-phase  
200 V AC  
1 HP

Switching capacity  
Maximum motor rating  
Single-phase  
240 V AC  
1.5 HP

Switching capacity  
Maximum motor rating  
Three-phase  
200 V AC  
3 HP

Switching capacity  
Maximum motor rating  
Three-phase  
240 V AC  
3 HP

Switching capacity  
Maximum motor rating  
Three-phase  
480 V AC  
7.5 HP

Switching capacity  
Maximum motor rating  
Three-phase  
600 V AC  
7.5 HP

Short Circuit Current Rating  
Basic Rating  
5 kA

Short Circuit Current Rating  
max. Fuse  
50 A

Short Circuit Current Rating  
High fault rating  
10 kA

Short Circuit Current Rating  
max. Fuse  
20, Class J A

Terminal capacity  
Solid or flexible conductor with ferrule  
18 - 14 AWG

Terminal capacity  
Terminal screw  
M3.5

Terminal capacity  
Tightening torque  
8.8 lb-in

## DESIGN VERIFICATION AS PER IEC/EN 61439

### Technical data for design verification

Rated operational current for specified heat  
dissipation [ $I_r$ ]  
20 A

Heat dissipation per pole, current-dependent [ $P_{vid}$ ]  
0.6 W

Equipment heat dissipation, current-dependent  
[ $P_{vid}$ ]  
0 W

Static heat dissipation, non-current-dependent [ $P_{vs}$ ]  
0 W

Heat dissipation capacity [ $P_{diss}$ ]  
0 W

Operating ambient temperature min.  
-25 °C

Operating ambient temperature max.  
+50 °C

## 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 Strength of materials and parts  
10.2.3.1 Verification of thermal stability of enclosures  
Meets the product standard's requirements.

10.2 Strength of materials and parts  
10.2.3.2 Verification of resistance of insulating materials to normal heat  
Meets the product standard's requirements.

10.2 Strength of materials and parts  
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 Strength of materials and parts  
10.2.4 Resistance to ultra-violet (UV) radiation  
UV resistance only in connection with protective shield.

10.2 Strength of materials and parts  
10.2.5 Lifting  
Does not apply, since the entire switchgear needs to be evaluated.

10.2 Strength of materials and parts  
10.2.6 Mechanical impact  
Does not apply, since the entire switchgear needs to be evaluated.

10.2 Strength of materials and parts  
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 Insulation properties  
10.9.3 Impulse withstand voltage  
Is the panel builder's responsibility.

10.9 Insulation properties  
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 disconnecter (EC000216)

Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Switch disconnecter (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  $U_e$  AC  
690 V

Rated operating voltage  
690 - 690 V

Rated permanent current  $I_u$   
20 A

Rated permanent current at AC-23, 400 V  
13.3 A

Rated permanent current at AC-21, 400 V

20 A

Rated operation power at AC-3, 400 V  
5.5 kW

Rated short-time withstand current  $I_{cw}$   
0.32 kA

Rated operation power at AC-23, 400 V  
5.5 kW

Switching power at 400 V  
5.5 kW

Conditioned rated short-circuit current  $I_q$   
6 kA

Number of poles  
3

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  
No

Suitable for front mounting centre  
Yes

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)  
12

## 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

Specially designed for North America  
Yes, with an alternative front plate and/or terminal  
markings to those of the IEC type in combination  
with "+NA" (105864)

Suitable for  
Branch circuits, suitable as motor disconnect

Degree of Protection  
IEC: IP65; UL/CSA Type 1, 12

## DIMENSIONS



- ZFS... Label mount not included as standard
- Drilling dimensions door



- 3 padlocks

