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T0-1-8214/I1 - Changeover switches, T0, 20 A, surface mounting, 1 contact unit(s), Contacts: 2, 45 °, momentary, With 0 (Off) position, with spring-return from both directions to 0, 1>0<2, design no. 8214



207077 T0-1-8214/I1

[Overview](#) [Specifications](#) [Resources](#)



207077 T0-1-8214/I1

Changeover switches, T0, 20 A, surface mounting, 1 contact unit(s), Contacts: 2, 45 °, momentary, With 0 (Off) position, with spring-return from both directions to 0, 1>0<2, design no. 8214

EL-Nummer (Norway) 1456415

Changeover switch, Product range: Control switches, Part group reference: T0, with black thumb grip and front plate, Contacts: 2, Degree of Protection: IP65, Design: surface mounting, Switching angle: 45 °, Switching performance: momentary, With 0 (Off) position, with spring-return from both directions to 0, front plate: 2>0<1, Motor rating AC-23A, 50 - 60 Hz 400 V: P= 5.5 kW, Rated uninterrupted current: I_u = 20 A, 1 contact unit(s), Standards: IEC/EN 60947, VDE 0660, IEC/EN 60204, Switch-disconnector according to IEC/EN 60947-3



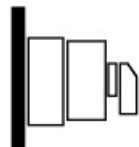
- Delivery program
- Technical data
- Design verification as per IEC/EN 61439
- Technical data ETIM 7.0
- Dimensions

Delivery program

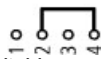
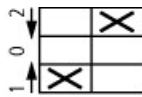
Product range
Control switches
Part group reference
T0
Basic function
Changeover switches
with black thumb grip and front plate
Contacts
2
Degree of Protection
IP65

totally insulated

Design
surface mounting



Contact sequence



Switching angle

45 °

Switching performance

momentary

With 0 (Off) position

with spring-return from both directions to 0

Design number

8214

Front plate no.



FS 4011

front plate

1>0<2

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

1 contact unit(s)

Technical data

General

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 temperatureEnclosed

-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

Electrical characteristicsRated operational voltage [U_b]

690 V AC

Electrical characteristicsRated uninterrupted current [I_u]

20 A

Electrical characteristicsNote on rated uninterrupted current I_u

Rated uninterrupted current I_u is specified for max. cross-section.

Load rating with intermittent operation, class 12AB 25 % DF

$2 \times I_b$

Load rating with intermittent operation, class 12AB 40 % DF

$1.6 \times I_b$

Load rating with intermittent operation, class 12AB 60 % DF

$1.3 \times I_b$

Short-circuit ratingFuse

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_c]
6 kA
Switching capacity
cos ϕ rated making capacity as per IEC 60947-3
130 A
Rated breaking capacity cos ϕ to IEC 60947-3230 V
100 A
Rated breaking capacity cos ϕ to IEC 60947-3400/415 V
110 A
Rated breaking capacity cos ϕ to IEC 60947-3500 V
80 A
Rated breaking capacity cos ϕ to IEC 60947-3690 V
60 A
Safe isolation to EN 61140 between the contacts
440 V AC
Safe isolation to EN 61140 Current heat loss per contact at I_e
0.6 W
Safe isolation to EN 61140 Current heat loss per auxiliary circuit at I_e (AC-15/230 V)
0.6 W
Lifespan, mechanical [Operations]
 $> 0.4 \times 10^6$
Maximum operating frequency [Operations/h]
1200
AC AC-3 Rating, motor load switch [P] 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 400 V 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_e]
4.9 A
AC AC-3 Rated operational current motor load switch 690 V star-delta [I_e]
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_e]
13.3 A
AC AC-23A Rated operational current motor load switch 400 V 415 V [I_e]
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
 DCDC-1, Load-break switches L/R = 1 ms Rated operational current [I_e]
 10 A
 DCDC-1, Load-break switches L/R = 1 ms Voltage per contact pair in series
 60 V
 DCDC-21A [I_e] Rated operational current [I_e]
 1 A
 DCDC-21A [I_e] Contacts
 1 Quantity
 DCDC-23A, motor load switch L/R = 15 ms 24 V Rated operational current [I_e]
 10 A
 DCDC-23A, motor load switch L/R = 15 ms 24 V Contacts
 1 Quantity
 DCDC-23A, motor load switch L/R = 15 ms 48 V Rated operational current [I_e]
 10 A
 DCDC-23A, motor load switch L/R = 15 ms 48 V Contacts
 2 Quantity
 DCDC-23A, motor load switch L/R = 15 ms 60 V Rated operational current [I_e]
 10 A
 DCDC-23A, motor load switch L/R = 15 ms 60 V Contacts
 3 Quantity
 DCDC-23A, motor load switch L/R = 15 ms 120 V Rated operational current [I_e]
 5 A
 DCDC-23A, motor load switch L/R = 15 ms 120 V Contacts
 3 Quantity
 DCDC-23A, motor load switch L/R = 15 ms 240 V Rated operational current [I_e]
 5 A
 DCDC-23A, motor load switch L/R = 15 ms 240 V Contacts
 5 Quantity
 DCDC-13, Control switches L/R = 50 ms Rated operational current [I_e]
 10 A
 DCDC-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_f
 Terminal capacities
 Solid or stranded
 1 x (1 - 2,5)
 2 x (1 - 2,5) mm²
 Flexible with ferrules to DIN 46228
 1 x (0.75 - 2.5)
 2 x (0.75 - 2.5) mm²
 Terminal screw
 M3.5
 Tightening torque for terminal screw
 1 Nm
 Technical safety parameters:
Notes
 B10_d values as per EN ISO 13849-1, table C1
 Rating data for approved types
 Terminal capacity Terminal screw
 M3.5
 Terminal capacity Tightening torque
 8.83 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_{id}]
 0.6 W
 Equipment heat dissipation, current-dependent [P_{id}]
 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.

+40 °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) / 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])

Model

Reverser

Number of poles

1

With 0 (off) position

Yes

With retraction in 0-position

Yes

Rated permanent current I_u

20 A

Rated operation current I_e at AC-3, 400 V

11.5 A

Rated operation power at AC-3, 400 V

4 kW

Degree of protection (IP), front side
 IP65
 Degree of protection (NEMA), front side
 Other
 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
 No
 Complete device in housing
 Yes
 Material housing
 Plastic
 Type of control element
 Toggle
 Type of electrical connection of main circuit
 Screw connection

Dimensions



Drilling dimensions base

CAD data

- [Product-specific CAD data](#)
(Web)
- [3D Preview](#)
(Web)

DWG files

- [DA-CD-bauform2](#)
File
(Web)

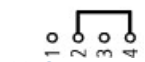
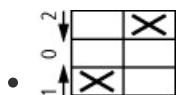
edz files

- [DA-CE-ETN.T0-1-8214_I1](#)
File
(Web)

Step files

- [DA-CS-bauform2](#)
File
(Web)

Wiring diagram



[115S334-2](#)

Line drawing

Changeover switch with 0 position

Dimensions single product

- [115X113](#)
Line drawing
Layout, drilling dimensions
- [115X160](#)
Line drawing
Layout

Product photo

- 
[1150PIC-355](#)
Photo

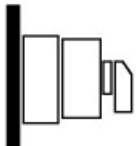
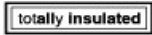
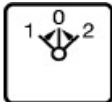
3D drawing

- [1150DRW-3](#)
Line drawing
Surface mounting type

Instruction Leaflet

- [T0 Cam switches: Surface mounting enclosure \(IL03801007Z\)](#)
Asset
former AWA1150-1688
(PDF, 06/2021, multilingual)

Symbol

- 
[000Z078](#)
Graphic
Rotary switches, surface mounting
- 
[000Z083](#)
Logo
totally insulated (en, de, fr, es, it, zh, ru, nl, sv, cs, pl, tr)
- 
[FS 4011](#)
[115K007](#)
Graphic
FS4011 standard front plate

Declaration of Conformity

EU

- [Rotary Cam Switch T0 \(DA-DC-00003632\)](#)
Asset
(PDF)

UK

- [Rotary CamSwitch T0 \(DA-DC-00004000\)](#)
Asset
(PDF)

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