



120934  
P-SOL20

Overview

Specifications

Resources



Delivery program

Technical data

Design verification as  
per IEC/EN 61439

Technical data ETIM 7.0

Approvals

Dimensions

## DELIVERY PROGRAM

Product range  
Switchgear for photovoltaic systems

Subrange  
DC switch-disconnectors

Rated operational voltage [ $U_e$ ]  
1000 V

Protection class  
2

Number of conductors  
2 pole

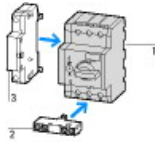
Rated operational current at DC-21A [ $I_e$ ]  
20 A

Rated operational current at DC-PV1 [ $I_e$ ]  
20 A

Rated operational current at DC-PV2 [ $I_e$ ]  
10 A

Design  
open

#### Notes



#### Accessories

#### Page

- |                                 |                                 |
|---------------------------------|---------------------------------|
| 2 Hilfsschalter NH-E            | <input type="checkbox"/> 082882 |
| 3 Arbeitsstromauslöser A-PKZ0   | <input type="checkbox"/> 073187 |
| 3 Unterspannungsauslöser U-PKZ0 | <input type="checkbox"/> 073135 |

## TECHNICAL DATA

Rated operational current at DC-21A [ $I_e$ ]  
20 A

Rated operational current at DC-PV1 [ $I_e$ ]  
20 A

Rated operational current at DC-PV2 [ $I_e$ ]  
10 A

Number of poles  
2 pole

Rated operational voltage [ $U_e$ ]  
1000 V

Isolating characteristics  
yes

Standards  
IEC/EN 60947-3

Lifespan, mechanical [Operations]  
100000

Electrical  
1500 Operations

Max. operating frequency  
120 Ops/h

Climatic proofing  
Damp heat, constant, to IEC 60068-2-78  
Damp heat, cyclic, to IEC 60068-2-30

### Ambient temperature

Open  
-25 - +60 °C

Mounting position  
As required

### Dimensions

Width  
58 mm

Height  
93 mm

Depth  
76 mm

Top-hat rail  
35 mm

Weight  
0.32 kg

### Terminal capacities

Flexible with ferrule  
1 x (1 - 6)  
2 x (1 - 6) mm<sup>2</sup>

Solid or stranded

18 - 14 AWG

Rated short-time withstand current ( $t=1s$ ) [ $I_{bw}$ ]  
0.36 kA

up to 440 V 50/60 Hz [ $I_{cm}$ ]  
0.32 kA

Internal resistance  
6 m $\Omega$

## DESIGN VERIFICATION AS PER IEC/EN 61439

### Technical data for design verification

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

Heat dissipation per pole, current-dependent [ $P_{id}$ ]  
0.8 W

Equipment heat dissipation, current-dependent  
[ $P_{id}$ ]  
2.4 W

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

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

Operating ambient temperature min.  
-25 °C

Operating ambient temperature max.  
+60 °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  
Meets the product standard's requirements.

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

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  
Nb

Version as maintenance-/service switch  
Nb

Version as safety switch  
Nb

Version as emergency stop installation  
Nb

Version as reversing switch  
Nb

Number of switches  
1

Max. rated operation voltage  $U_e$  AC  
0 V

Rated operating voltage  
1000 - 1000 V

Rated permanent current  $I_u$   
20 A

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

Rated permanent current at AC-21, 400 V  
0 A

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

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

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

Switching power at 400 V  
20 kW

Conditioned rated short-circuit current I<sub>q</sub>  
0 kA

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

Mbtor drive optional  
No

Mbtor drive integrated  
No

Voltage release optional  
Yes

Device construction  
Built-in device fixed built-in technique

Suitable for ground mounting  
Yes

Suitable for front mounting 4-hole  
No

Suitable for front mounting centre  
No



Suitable for distribution board installation  
Yes

Suitable for intermediate mounting  
No

Colour control element  
Black

Type of control element  
Turn button

Interlockable  
No

Type of electrical connection of main circuit  
Clamp bracket

Degree of protection (IP), front side  
IP20

Degree of protection (NEMA)  
Other

## APPROVALS

Product Standards  
UL 508; CSA-C22.2 No. 14-10; IEC60439-1; CE  
marking

UL File No.  
E338590

UL Category Control No.  
NRNT2

CSA File No.  
165628

CSA Class No.  
3211-05

North America Certification  
UL recognized, CSA certified

Specially designed for North America  
No

Suitable for  
SCCR: 10 kA (600 V DC, 70 A max. fuse)

## DIMENSIONS

