DATASHEET - P-SOL20



Switch-disconnector, DC current, 20A

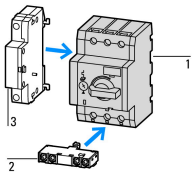
Part no.	**P-SOL20**
Catalog No.	**120934**
Alternate Catalog No.	**P-SOL20**
EL-Nummer (Norway)	**4300323**

Powering Business Worldwide

Delivery program

Product range			Switchgear for photovoltaic systems
Subrange			DC switch-disconnectors
Rated operational voltage	U_e	V	1000
Protection class			2
Number of conductors			2 pole
Rated operational current at DC-21A	I_e	A	20
Rated operational current at DC-PV1	I_e	A	20
Design			open

Notes



Accessories	**Page**
2 Hilfsschalter NHI-E	→ 082882
3 Arbeitsstromauslöser A-PKZ0	→ 073187
3 Unterspannungsauslöser U-PKZ0	→ 073135

Technical data

Rated operational current at DC-21A	I_e	A	20
Rated operational current at DC-PV1	I_e	A	20
Number of poles			2 pole
Rated operational voltage	U_e	V	1000
Isolating characteristics			yes
Standards			IEC/EN 60947-3
Lifespan, mechanical	Operations		100000
Electrical		Operations	1500
Max. operating frequency		Ops/h	120
Climatic proofing			Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30

Ambient temperature

Open		°C	-25 - +60
Mounting position			As required

Dimensions

Width		mm	58
Height		mm	93
Depth		mm	76

Top-hat rail			35 mm
Weight		kg	0.32

Terminal capacities

Flexible with ferrule		mm^2	1 x (1 - 6) 2 x (1 - 6)
Solid or stranded		AWG	18 - 14
Rated short-time withstand current (t=1s)	I_{cw}	kA	0.36
up to 440 V 50/60 Hz	I_{cm}	kA	0.32
Internal resistance		mΩ	6

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I_n	A	20
Heat dissipation per pole, current-dependent	P_{vid}	W	0
Equipment heat dissipation, current-dependent	P_{vid}	W	2.4
Static heat dissipation, non-current-dependent	P_{vs}	W	0
Heat dissipation capacity	P_{diss}	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	60
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			Meets the product standard's requirements.
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

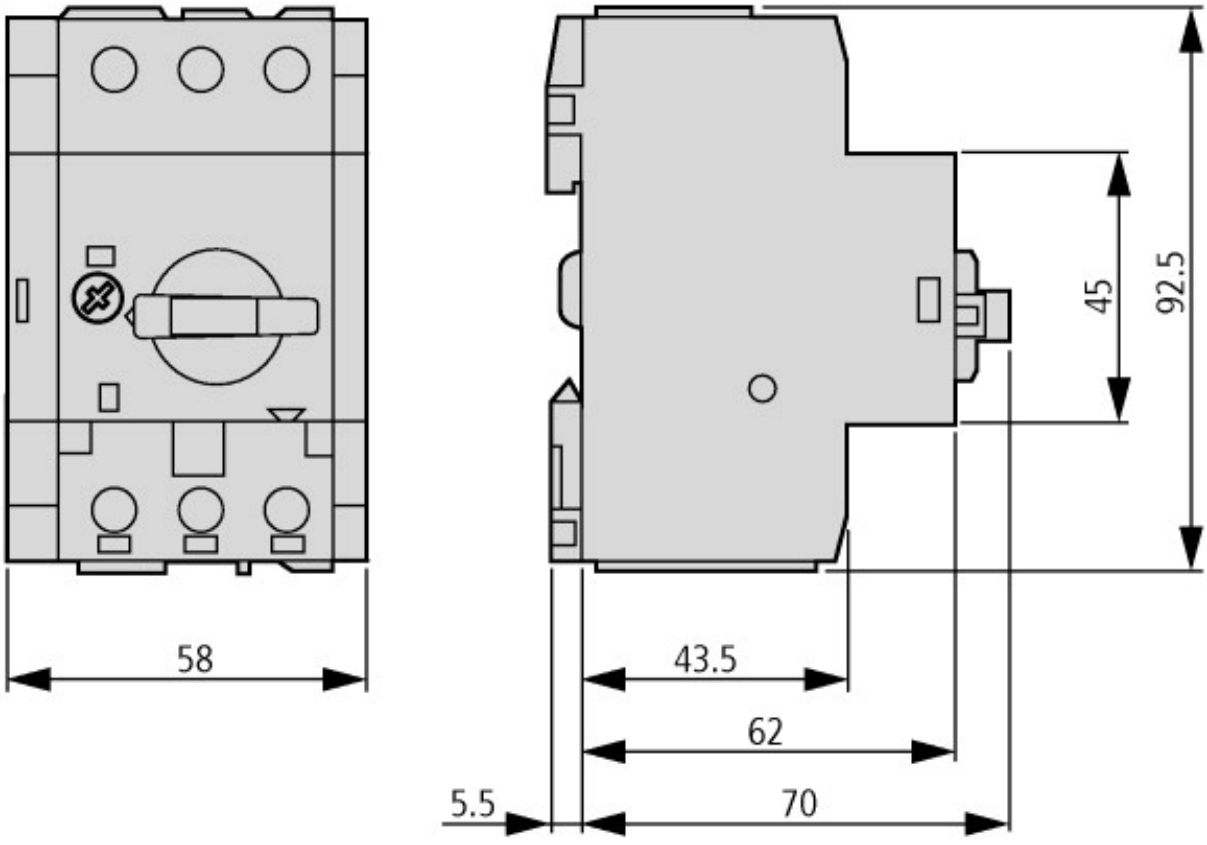
Low-voltage industrial components (EG000017) / Switch disconnector (EC000216)			
Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Switch disconnector (ecl@ss10.0.1-27-37-14-03 [AKF060013])			
Version as main switch			No
Version as maintenance-/service switch			No
Version as safety switch			No
Version as emergency stop installation			No
Version as reversing switch			No
Number of switches			1
Max. rated operation voltage Ue AC		V	0
Rated operating voltage		V	1000 - 1000
Rated permanent current Iu		A	20
Rated permanent current at AC-23, 400 V		A	0
Rated permanent current at AC-21, 400 V		A	0
Rated operation power at AC-3, 400 V		kW	0
Rated short-time withstand current Icw		kA	0.36
Rated operation power at AC-23, 400 V		kW	0

Switching power at 400 V	kW	20
Conditioned rated short-circuit current Iq	kA	0
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
Motor drive optional		No
Motor 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

Specially designed for North America		No

Dimensions



Assets (links)

Declaration of CE Conformity

00003242

Instruction Leaflets

IL03402020Z2018_06

Additional product information (links)

IL03402020Z DC switch-disconnector, DC-String circuit-breaker	
IL03402020Z DC switch-disconnector, DC-String circuit-breaker	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03402020Z2018_06.pdf
Motor starters and "Special Purpose Ratings" for the North American market	http://www.eaton.eu/ecm/groups/public/@pub/@europe/@electrical/documents/content/pct_3258146.pdf
Busbar Component Adapters for modern Industrial control panels	http://www.moeller.net/binary/ver_techpapers/ver960en.pdf

© 06/2019 by Eaton Industries GmbH