Battery Disconnect Switch BDS-A (Latching)

- **Limiting continuous current 190A at 85°C**
- **Electrically settable and resettable ON/OFF bistable device**
- **High peak current carrying capability up to 1500A[1)]**



F130_fbw3

Typical applications
Preheating systems (e.g. for diesel engines, catalytic converters), battery disconnection to prevent fire caused by short circuits during an accident, dual battery applications provide the start reliability by a separate starter battery, keeps the power net in balance and to control and secure the health of the energy storage systems, seasonal, service and transport deactivation, high current switching, energy management, battery coupling.

Contact Data	12VDC	24VDC
Contact arrangement	1 form X, 1 NO DM (bridge)	
Rated voltage	12VDC	24VDC
Maximum switching voltage	16VDC	32VDC
Limiting continuous current[1)]- load current from terminal B(+) to A(-)		
23°C, load cable 50mm²	260A	
85°C, load cable 50mm²	190A	
125°C, load cable 50mm²	88A	
Limiting making current, resistive load, cable 50mm², 23°C, ton/toff=0.5s/10min	1500A, >5 ops.[1)]	
Limiting breaking current, resistive load, cable 50mm², 23°C, ton/toff=0.5s/10min	1500A, >5 ops.[1)]	
Limiting short-time current, overload current at 23°C, cable 50mm², 1000A,1s - 0A, 9s	$50x10^3$ ops.[2)]	
Contact material	silver alloy	
Contact style	bridge contact	
Initial voltage drop	at 100A<40mV post 1min	
Operate/release time typ.	5ms at 14VDC (coil voltage)	
Electrical endurance inductance 0.1mH, temperature change (-40/25/120°C) 2h each; cable 35mm²		
180A, ton/off	$>1.3x10^4$ ops., 1.5/5s.	
100A, ton/off	$>5x10^4$ ops., 1.5/5s	
150A, ton/off		$>2.5x10^4$ ops., 0.5/5s
100A, ton/off		$>7x10^4$ ops., 0.5/5s
Mechanical endurance	$>1.5x10^5$ ops.	

1) Important: please pay attention to load current direction.
2) Values are influenced by system temperature and load current. For further details please consult TE relay application engineers.

Coil Data				
Magnetic system	bistable (two coil system)			
Coil voltage range 23°C (set - reset)	2021: 6VDC - 12VDC (15 to 100ms) 2024: 12VDC - 24VDC (15 to 100ms)			
Rated coil voltage	12/24VDC			
Polarity for set/reset energization	set		reset	
	- pin 2	+ pin 4	- pin 3	+ pin 1

Coil versions, bistable 2 coils

Coil code	Rated voltage [VDC]	Set voltage [VDC]	Reset voltage [VDC]	Set/reset coil resistance [Ω] ±10%	Impulse lenght [ms]
2021	12	6.0	6.0	4.7	15 to 100
2421	24	12.0	12.0	19.9	15 to 100

All figures are given for coil without preenergization, at ambient temperature +23°C.

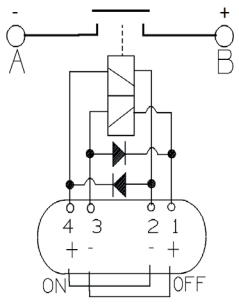
Insulation Data	
Initial dielectric strength	
between open contacts	$500V_{rms}$
between contact and coil	$500V_{rms}$

Other Data	
EU RoHS/ELV compliance	compliant
Protection to heat and fire	UL94-HB or better[3)]
Ambient temperature	-40 to +125°C
Degree of protection IEC 60529 (yyyy-mm)	IP54
Vibration resistance (functional) ISO 16750-3 (2007-08)	22 to 500Hz, >10g[4)]
Test IV	No change of switching state >10µs
Shock resistance (functional) IEC 60068-2-27 (1995-03)	min. 40g 11ms[4)]
half sine	No change of switching state >10µs
Terminal type	connector and screw
Weight	approx. 210g (7.4oz)
Packaging unit and delivery[5)]	24 pcs

3) Refers to used materials.
4) Valid for NC contacts, NO contact values significantly higher.
5) Bistable relays are delivered in the reset position (open contacts). Due to mechanical impacts during transportation, we advise to check the contact status on receipt. Latching (delivery status "ex works").

Terminal Assignment

X2D2C
1 form X, 1 NO DM (bridge),
with 2 coils and 2 diodes



Terminal	Function
4	Set coil (+)
3	Reset coil (-)
2	Set coil (-)
1	Reset coil (+)
A	Load terminal (-)
B	Load terminal (+)

Set voltage for 15 to 100ms: load terminals A(-) and B(+) get connected
Reset voltage for 15 to 100ms: load terminals A(-) and B(+) get disconnected

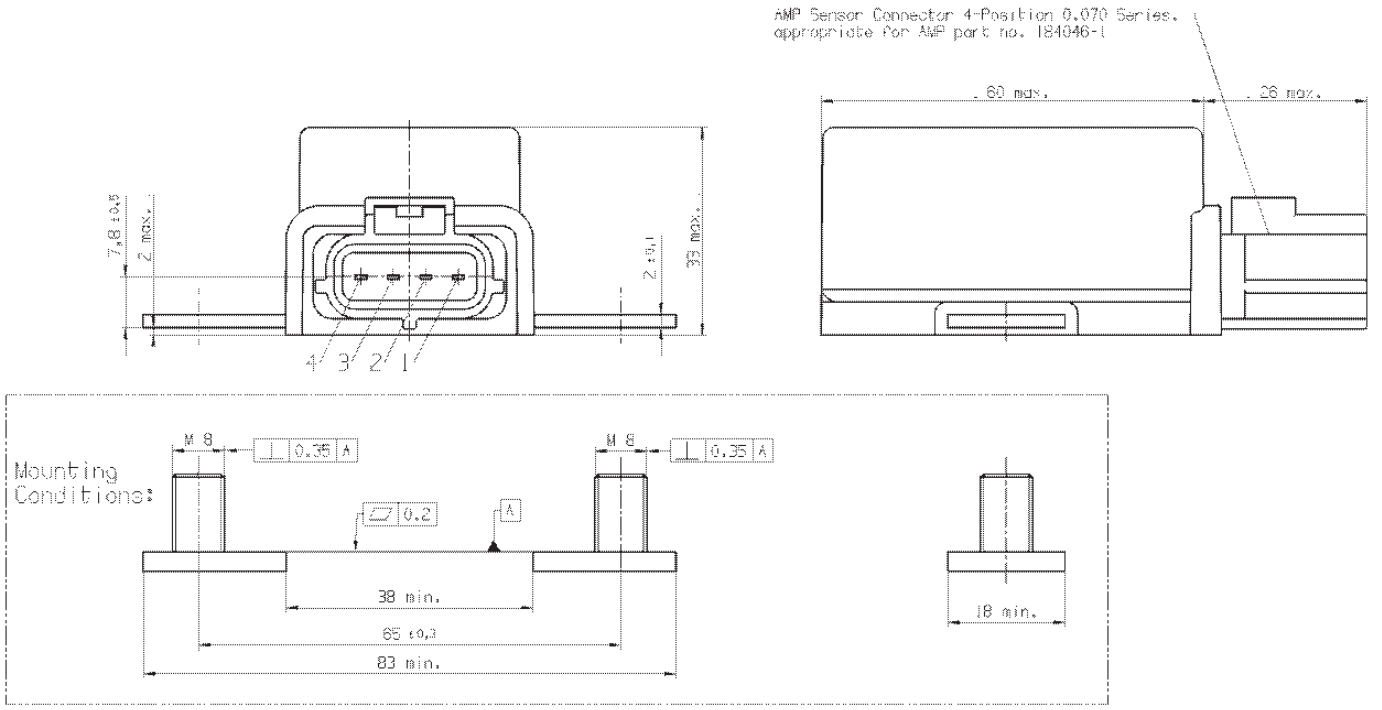
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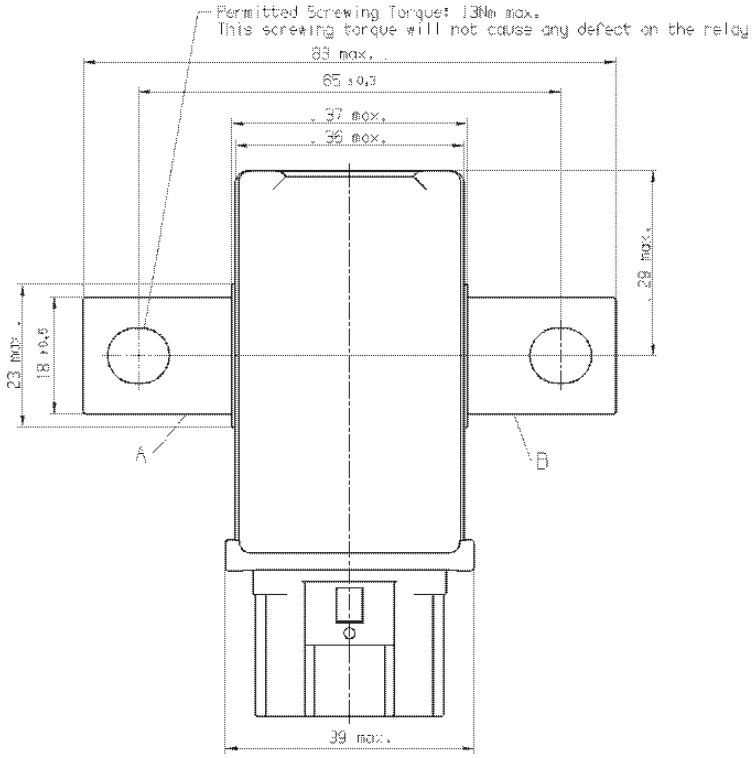
Datasheets and product specification according to IEC 61810-1 and to be used only together with the 'Definitions' section.

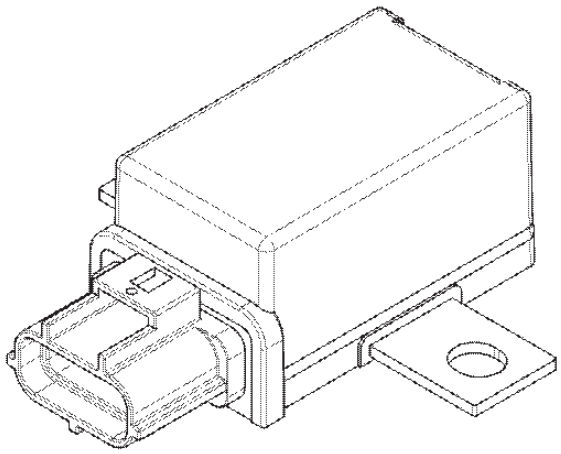
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Battery Disconnect Switch BDS-A (Latching) (Continued)







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Battery Disconnect Switch BDS-A (Latching) (Continued)

Product code structure Typical product code **V23130 -C 2021 -A 4 00**

Type
V23130 Battery Disconnect Switch BDS-A

Contact arrangement
C 1 form X, 1 NO DM

Coil
2021 12VDC (bistable) **2421** 24VDC (bistable)

Protection class
A IP54

Contact material
4 Silver alloy

Standard version
00 Standard

Product code	Arrangement	Coil	Circuit	Coil suppr.	Protection	Terminals	Feature	Part number
V23130-C2021-A412	1 form X,	12VDC	X2D2C	Diode	IP54	Screw +	Bracket	1-1414939-4
V23130-C2421-A431	1 NO DM (bridge)	24VDC				connector		7-1414778-3

This list represents the most common types and does not show all variants covered by this datasheet.
Other types on request.

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