Battery Disconnect Switch BDS-A (Latching)

- **Limiting continuous current 190A at 85°C**
- **Electrically settable and resettable ON/OFF bistable device**
- **Suitable for voltage levels up to 42VDC**
- **High peak current carrying capability up to 1500A[1)]**

F130_fcw1_bw

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.

1) Important: please pay attention to load current direction.

Contact Data	12VDC	24VDC
Contact arrangement	1 form X, 1 NO DM (bridge)	
Rated voltage	12VDC	24VDC
Max. switching voltage	depends on load parameter[2)]	
Rated current		
load current from Terminal B to A, cable 50mm²	260A	
Limiting continuous current		
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.	
Limiting breaking current,		
resistive load, cable 50mm², 23°C,		
ton/toff=0.5s/10min	1500A, >5 ops.	
Limiting short-time current,		
overload current at 23°C, cable 50mm²,		
1000A,1s - 0A, 9s	50x10³ ops.[3)]	
Contact material	$AgSnO_2$	
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	>13x10³ ops., 1.5/5s.	
100A, ton/off	>50x10³ ops., 1.5/5s	
150A, ton/off	>25x10³ ops., 0.5/5s	
100A, ton/off	>70x10³ ops., 0.5/5s	
Mechanical endurance	>150x10³ ops.	

2) Please contact TE relay application engineer.
3) 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)
Rated coil voltage	12/24VDC
Max. coil power	approx. 7W at 20°C for Uon/Uoff
Max. coil temperature	155°C

Coil versions, bistable 2 coils

Coil code	Rated voltage VDC	Set voltage VDC	Reset voltage VDC	Coil resistance Ω±10%	Impulse length ms
2021	12	6	6	4.7	15 to 100
2421	24	12	12	19.9	15 to 100

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

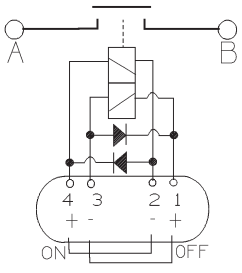
Insulation Data	
Initial dielectric strength	
between open contacts	$500V_{rms}$
between contact and coil	$500V_{rms}$

Other Data	
Ambient temperature	-40°C to +120°C
Degree of protection	
dustproof/splash water proof:	IP54 (IEC 60529), RT I (IEC 61810)
Vibration resistance (functional)	
IEC 60068-2-6 (sine sweep)	22 to 500Hz, min. 10g.
Shock resistance (functional)	
IEC 60068-2-27 (half sine)	11ms, min. 40g[4)]
Terminal type	connector and screw
Weight	approx. 210g (7.4oz)
Packaging unit and delivery[5)]	24 pcs.

4) No change in the switching state >10µs.
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

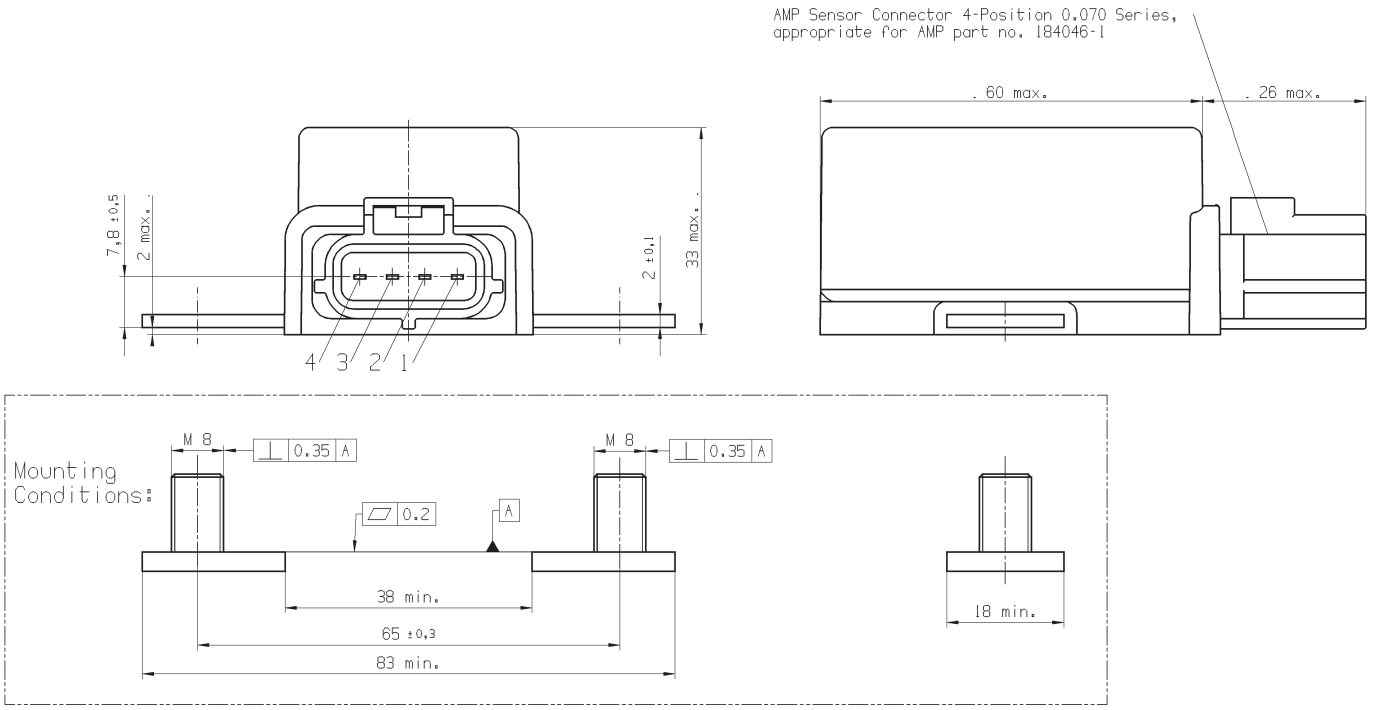
X2D2C
1 form X, 1 NO DM (bridge),
with 2 coils and 2 diodes

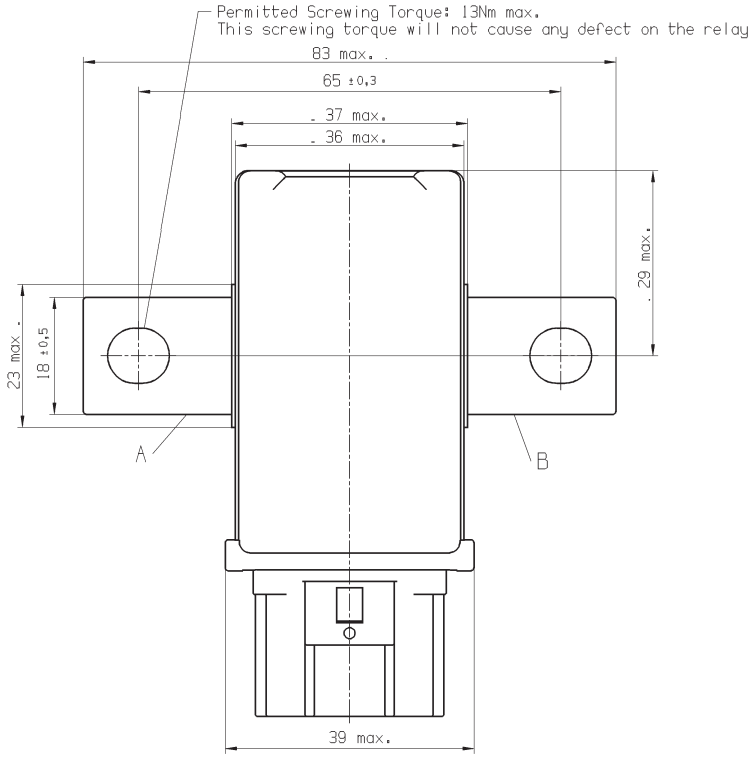


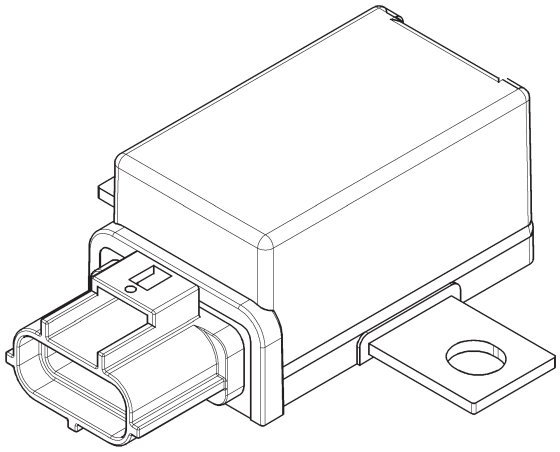
Terminal	Function
4	Set Coil (+)
3	Reset Coil (-)
2	Set Coil (-)
1	Reset Coil (+)
A	Load Terminal
B	Load Terminal

Set = A and B get connected

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







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 AgSnO2

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.