

Battery Disconnection Switch – PSS-4

Pyro-switch – Automotive Switch – High Current Device

Autoliv

- Maximum continuous current 350 A at 105°C
- Non-reversible device
- Suitable for voltage levels up to 600 VDC
- High peak current carrying capability up to 25 000 A

Product description:

A pyrotechnical actuator separates the electric connection irreversibly. Pyrotechnical actuator is to be installed in EV vehicles and hybrid vehicles. It is triggered by the ECU, and is used to separate the motion battery from the electrical system.

Typical applications:

Battery disconnection to prevent fires caused by short circuits during/after an accident.

Switching capacity

Inductive load	500 V / 300 A / 750 μH
(Other request, Contact us)	475 V / 12 500 A / 20 μH 500 V / 17 000 A / 10 μH 475 V / 23 500 A / 2,3 μH

Max ohmic switching capacity, 2 PSS-4 in series triggered simultaneously 1000 V / 10 000 A / < 5 μH

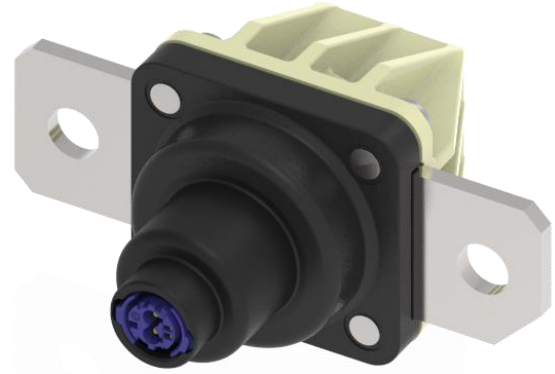
Current carrying capacity

Customer cooling system must guarantee the temperature at terminals' connection point does not exceed +125°C

Customers applications examples :	
105°C Max, load cable 70 mm ² min	350 A DC
85°C Max, load cable 70 mm ² min	420 A DC
50°C Max, load cable 70 mm ² min	500 A DC
Maximum pulse current	25 000 A / 5 ms

Busbar

Contact raw-material (base)	CuSn 0,15
Contact plating material (lead-free)	Sn/Ni
Busbar profile	
Cross-section nominal	78 mm ²
Busbar resistance (at RT)	
before ops.	≤ 0,05 mΩ
after ops	≥ 1 MΩ / 500 V



Operation time

Operating time	< 2 ms
Typical	0.8 ms for 450 V / 8 000 A / 15 μH 0.8 ms for 530 V / 24 000 A / 3 μH

Initiator Data

Qualified acc. to	AK-LV 16 & USCAR
Initiator resistance	≥ 1,7 Ω and ≤ 2,5 Ω
All- Fire current	≥ 1,75 A / 0,5 ms
Or	≥ 1,20 A / 2,0 ms
No-Fire current	≤ 0,4 A
Or	≤ 5,0 A / ≤ 4 μs
Diagnostic current:	100 mA
Triggering pulse slope	10 μs / A

Temperature

Operating temperature	-40 °C... + 105°C
Environmental temperature	-40 °C... + 105°C
Storage temperature	-40 °C... + 65°C
Self-ignition	≥ 300°C

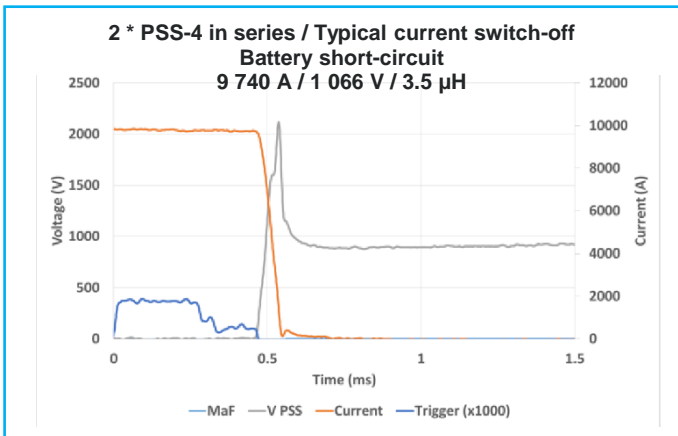
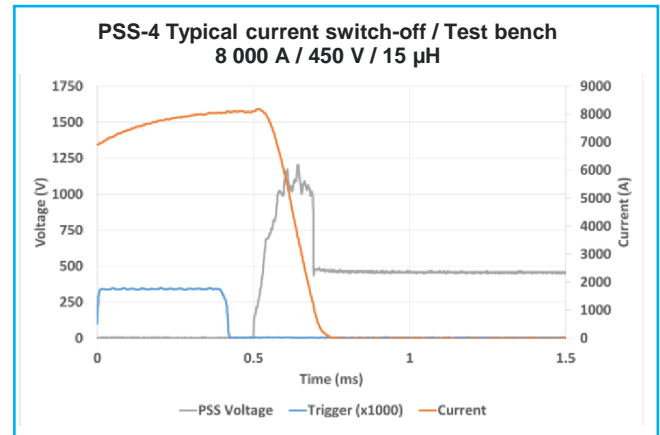
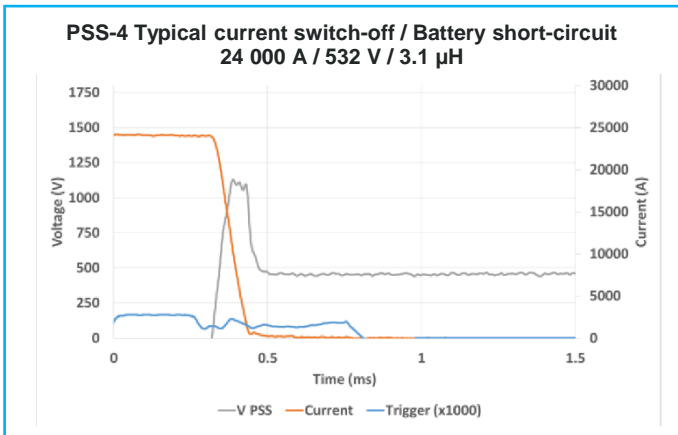
Other Data

Vibration resistance acc. to	AK-LV 124
Mech. Shock resistance acc. to	AK-LV 124
Temperature cycle resistance acc. to	AK-LV 124
Chemical loads resistance acc. to	AK-LV 124
Other	Flameless device
Terminal type	
on bus-bar	M8 screw
on initiator	ABX-5
Weight	≤ 160 g

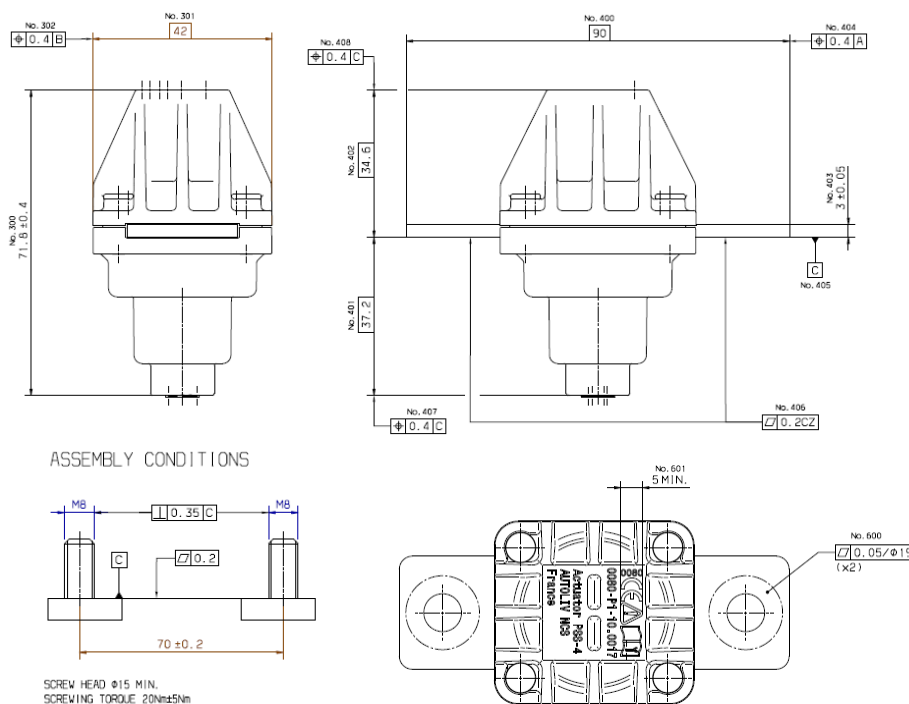
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Performance



Dimensions



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