

# Battery Disconnection Switch – PSS-X3

## Pyro-switch – Automotive Switch – High Current Device

**Autoliv**

- **Maximum continuous current 500 A**
- **Non-reversible device**
- **Suitable for voltage levels up to 1000 VDC**
- **High peak current carrying capability up to 20 000 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	920 V / 16 000 A / 16 µH
(Other request,	900 V / 15 000 A / 25 µH
Contact us)	450 V / 20 000 A / 15 µH

Equivalent Coil Energy Performance : 3 000 J

$$\left(\frac{1}{2}L \times I^2\right)$$

### Current carrying capacity

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

Customers' applications examples :

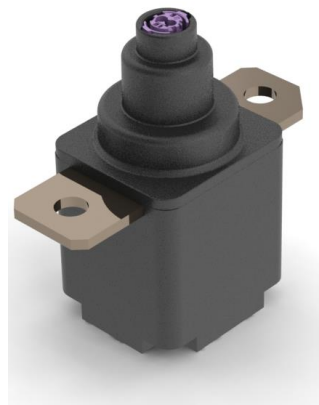
105°C Max, load cable 70 mm² min	350 A DC
85°C Max, load cable 70 mm² min	420 A DC
50°C Max, load cable 70 mm² min	500 A DC
Maximum pulse current	25 000 A / 5 ms

### Busbar

Contact raw-material (base)	CuSn 0,15
Contact plating material (lead-free)	Sn/Ni
Busbar profile Cross-section nominal	78 mm²
Busbar resistance (at RT)	
before ops.	≤ 0,05 mΩ
after ops	≥ 10 MΩ / 1000 V

### Temperature

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



### Operation time

Operating time	< 2 ms
Typical	< 1,5 ms for 920 V / 16 000 A / 16 µH < 1,5 ms for 900 V / 15 000 A / 25 µH

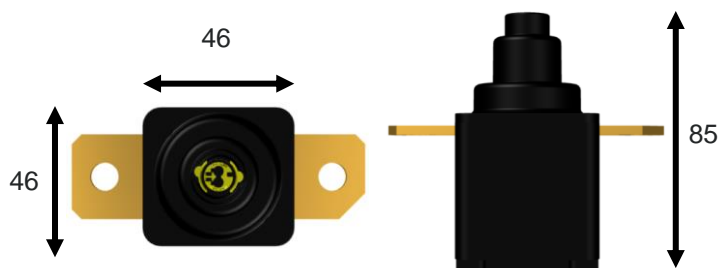
### Initiator Data

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

### 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

### Dimensions



We refer emphatically to the fact, that all details mentioned, especially the application and utilization recommendation for the products and their system accessories, have been developed under normal conditions, and based on our knowledge and experience. Appropriate storage and usage of the products are assumed. A warranty or reliability of a finished project cannot be deduced because of varying materials, substrates and differing work conditions, neither by any indications nor from verbal statements, irrespective of any legal positions. For the possible accusation that FDT acted intentionally or grossly negligent, the user has to supply evidence that they provided Autoliv with all information and details necessary for an appropriate and correct evaluation through Autoliv in written form, immediately available and complete. The user is responsible for ensuring that the products are suitable for the given application. It is Autoliv's right to change product specifications without notice. Property rights of third parties are to be considered. In addition our particular sales and delivery terms are valid. The latest version of our product data sheet is obligatory, which can be requested directly through Autoliv. All information as well as all technical and drawing data comply with current technical standards and are based on our experience. National standards and regulations must be observed. Technical changes reserved. As of January 2016. © 2016

