

Low Voltage Power System (LVPS)

6.5 kW Low Voltage Power Supply

Features

- For Light Rail as a 38 VDC power supply
- Complies with IEC 1287-1: 1995 Figure 4 curve 2.
- Provides low voltage DC output (LVDC) from high voltage DC (HVDC)
- IP65 enclosure
- Encapsulated transformer and single encapsulated inductor to improve resistance to shock and vibration
- CANBus communication

The A520016 LVPS is a DC/DC Constant Voltage/Constant Current 38 VDC nominal, 173 A continuous power supply operating from a nominal 600 VDC supply. The LVPS is self-powered from HVDC but can utilize control power from LVDC when present. As a further backup, if HVDC drops out, the LVPS has a built-in capability for the battery system to supply power to the LVPS to sustain CAN communications and display indicator lights.

Applications

- Light Rail



All connections are clearly marked for simplified installation.

Easy to read indicator lights on front cover of module.

Dimensions

Height	498 mm (19.6")
Width	820 mm (32.3")
Depth	286 mm (11.3")
Weight	47.2 kg (104 lbs)

Electrical Specifications	Rating			Unit
	Minimum	Nominal	Maximum	
HVDC input range	450	600	750	V
HVDC input overvoltage while operating [5 second max duration]	-	-	900	V
HVDC input current continuous per voltage range	9.5 [750V]	12 [600V]	16.5 [450V]	A
LVDC output voltage range adjustment	30	38	45	V
LVDC output current range	0	-	173	A
Short duration max output current	-	200 [110 sec]	225 [50 sec]	A
LVDC line regulation	-	-	±1	%
LVDC output ripple (AC coupled)	-	-	400	mV
Average efficiency (50 - 173 A load @ 600 VDC)	-	90	-	%
LVDC control supply current	-	0.2	2	A
Ambient temperature	-20 [-4]	-	50 [122]	°C [°F]
Safe operating temperature	-20 [-4]	-	80 [176]	°C [°F]

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ATS Part # A520016

Enclosure

Designed to be mounted in electrical cabinets on light rail, the modified NEMA Type 12 enclosure offers a degree of protection against dust and water.

External Connections

All external connections to the LVPS are made through an environmentally-protected quarter-turn bayonet connector and liquid tight cable glands.

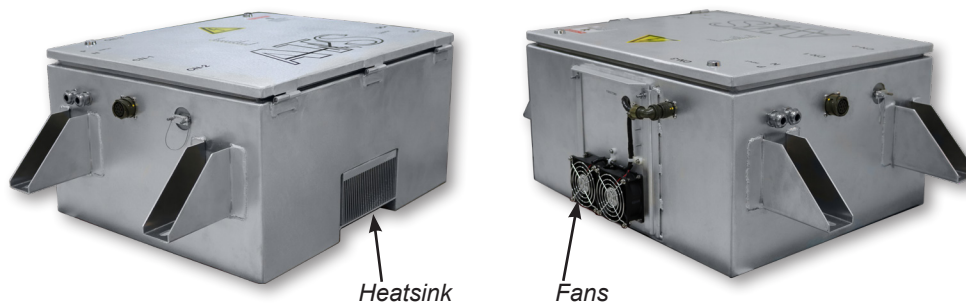
Battery Connections

The LVPS is configured to work in conjunction with batteries on transit vehicles. When HVDC is present, the LVPS provides 38 VDC and the battery normally closed contact is energized, disconnecting the batteries from LVDC. When HVDC is not present or a fault occurs, the normally closed contact is de-energized, allowing the external contactor to connect the batteries to LVDC.

Cooling Configuration

The enclosure is constructed of light weight aluminum with a welded heatsink for improved heat disbursement. Additional cooling provided by two mounted fans with easy access for maintenance.

Cooling: Air is pulled across the heat sink by fans located on top of the unit.



Typical installation diagram:

