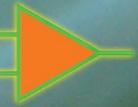


Railway application DC/DC Converters 30 to 2000W

POLYAMP 

The Polyamp logo features the word "POLYAMP" in a bold, green, sans-serif font. A green wavy line graphic is positioned below the letter "P". To the right of the text is a stylized orange and green arrow pointing to the right.

Train DC/DC converters 30 to 2000W

Polyamp supplies switch mode DC/DC converters into the train industry since 1973. We have worldwide experience of train applications from the Arctic north of Sweden, humid and hot Bangkok and dry and hot Australia.

The application of DC/DC converters onboard train is to supply electric and electronics equipment with safe and stable voltage.

Applications

Safety related supply

Mostly all equipments used by the driver are safety related and any fault will make the train to run in another mode or stop.

- Driver computer
- ATC system
- Emergency starting
- Radio
- Head and backlight
 - o Xenon
 - o Halogen
 - o LED
- Alarm bells / horns
- Wipe washers
- Cameras

Passenger comfort

- Displays & information systems
- Lamps Halogen/LED
- IT-equipments
- Sound system
- Toilets
- Coffee & Restaurant systems

Operational system

- Drive line internal voltages
- Counting devises, ticketing
- Cameras
- Doors
- Lifts

Applications can also be divided into:

- Trains
- Underground
- Trams
- Locomotives electric or diesel
- Special vehicles

Transforming

To save weight and space, new trains use battery voltage up to 110Vd.c. As most electric and electronic equipment works with 12V and 24V, the DC/DC converter transforms the voltage. A DC/DC converter can also make the opposite e.g. supply from 24V to 110V.

Filtering

The standards IEC60571 and EN50155 has special requirements on the d.c. supply voltage. Some equipment used in trains need a DC/DC converter that is made to handle those supply voltages. The main function is then as a filter and galvanic separation.

Input variation

Input variation according to IEC60571 and EN50155 are nominal $\pm 30\%$ including ripple but some other specifications makes the needed range $\pm 40\%$. The table below shows the variations.

Uin 0.1s- S2	Continous range	Code
14.4 - 33.6Vd.c.	16.8 - 30Vd.c.	24T
21.6 - 50.4Vd.c.	25.2 - 45Vd.c.	36T
28.8 - 67.2Vd.c.	33.6 - 60Vd.c.	48T
43.2 - 100.8Vd.c.	50.4 - 90Vd.c.	72T
66 - 154Vd.c.	77 - 137.5Vd.c.	110T

Those variations have been specified to cover most train applications. A modern train has a better d.c. supply system and can relax those requirements. Some markets still use the RIA12 requirements. We can make special models that meets the RIA12 surge requirement of 3.5x nominal input voltage.

Train standard

Electronic equipment onboard trains have to meet requirements specified in the standards IEC60571 and EN50155. To be noted is that many requirements have to be agreed upon.

Ambient temperature

The standard level is -25 to +55°C. Most specify -25 to +70°C (T3). We can make units up to +85°C.

EMC

IEC62236-3-2 and EN50121-3-2 defines EMC performance of electronic equipments.

Shock and vibration

Defined by IEC/EN61373 and we meet Body mounted class B. Our DC/DC converters are regularly used in military vehicles and fork lifts, which has higher vibration requirements.

Single outputs 3 to 125V

Train logistics

We have identified several types of deliveries into the train industry.

- 1 New trains
 - 2 Adding a feature to a fleet
 - 3 Train refurbishments & special equipments
 - 4 Track side equipments

Most of the cases these do not need large bulk quantities. Modern production methods with just-in-time approaches needs small batch exact on time deliveries. Polyamp is recognised by its customer to handle such approaches within day to day accuracy.

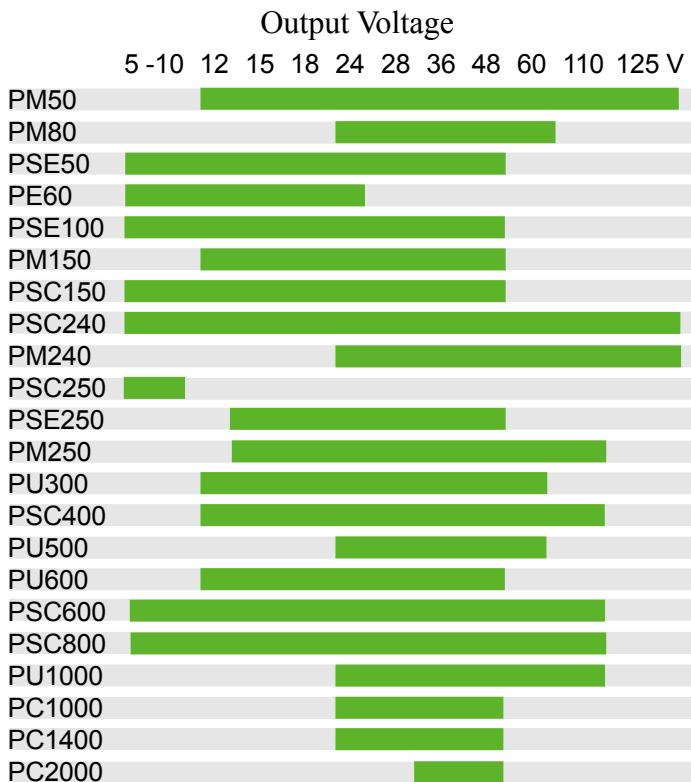
The number one choice in DC/DC converters.

With more than 35 years experience in development and manufacturing of DC/DC converters Polyamp have established a reputation of quality, reliability and on time deliveries. During these years Polyamp DC/DC converters have been used in a wide range of applications:

Forklifts, Electrical Vehicles, Trains and Track Side, Process Control and Power Plants (including nuclear), Power / DC Distribution, Telecom and Radiocom, Industry, Naval, Air Traffic Control, Military, Radio applications.

Single outputs 3 to 125V

- Single outputs 3 to 125V
 - 2 & 3 outputs 5 to 60V
 - Inputs 10V up to 600V
 - Sturdy mechanics, meets mobile requirements.
 - Easy robust mounting:
DIN, Wall, chassis and 19"-rack
 - Convection cooled with operating temperature range
-25 to +55°C, some models +70°C or EN50155 T3
 - Tropical coating standard or optional
 - High efficiency
 - Safety EN60950
 - MTBF >300000h @+40°C
 - Useful life 20 years



PM50/PM80



PSE50 - 250



PE60



PM150/PM240



PSC50 - 240



PM250



PU300/PU500



PSC400, PSC600, PSC800



PU600/PU1000



PC1000 PC1400 PC2000

The Company

Polyamp is a privately owned business located in Sollentuna, Stockholm, Sweden, with production facilities in Sweden in Åtvidaberg some 240km south of Stockholm and in Switzerland in La Chaux-de-Fonds.

Established for over 40 years, the Company has developed from a National Contractor to its present status of an "International Supplier of high quality Power Electronic equipment".



*Head office and Systems Division
in Sollentuna (Stockholm)*



Main factory in Åtvidaberg



La Chaux-de-Fonds factory



www.polyamp.com
info@polyamp.se

www.polyamp.se

Head office

Polyamp AB
Box 925
SE-191 29 Sollentuna
Sweden / Suède

Telefon
+46 8 594 693 00
Telefax
+46 8 594 693 05

Distributor



Polyamp AB
Box 229
SE-597 25 Åtvidaberg
Sweden / Suède

Telephone
+46 120 854 10
Telefax
+46 120 854 05



Switch Craft S.A.
Rue Bel Air 63
CH-2300 La Chaux-de-Fonds
Switzerland / Suisse

Telephone
+41 32 96 78800
Telefax
+41 32 96 78809

Polyamp Sales Offices