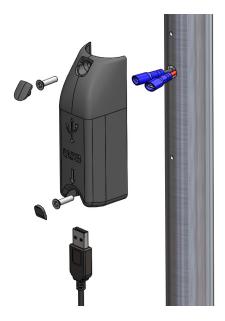
PASSENGER ACCESSIBLE USB CHARGERS FOR POLE INSTALLATIONS

USB is the preferred method for charging mobile devices on the move. The Alfatronix range of PVPro chargers can already be seen installed on vehicle walls, seat backs and table tops as well as under seats. The PVPm-S USB charger is designed for applications where journeys are relatively short and passengers are standing for some or all of their time on the vehicle. These units are designed for installation onto vertical poles and offer a robust solution for buses, trams, trains and metro carriages.

The units are designed to be fitted directly to 35mm diameter poles and provide an easily accessible and strong charging solution. These chargers utilise the latest fast charge technology and will seek to communicate with the phone and where compatibility exists, will automatically increase the charge voltage. Using this system, it is possible to provide a useful charging boost even over relatively short time periods.





It is recommended that these units are fused individually with a 1Amp fuse (24V systems) or a 2Amp fuse (12V Systems).

THE RANGE

The PVPm range has been designed to meet the rigorous standards required for on board commercial vehicle applications including EN50498 and ISO7637-2 and is both CE and E marked (Reg10). The casings are made from V0-rated (self-extinguishing) high impact polycarbonate and the PCB is populated by computer-controlled SMT for maximum accuracy and durability.



Designed for integration into passenger vehicles.

Accepts both 12Vdc and 24Vdc.

- Approved to EN50498 and ISO7637-2. E marked (Reg10) and CE marked.
- Quick Charge enabled.
- 2A internal fuse to protect against catastrophic failure.
- Convenient wide input of 9-32Vdc in one standard casing.
- LED indicates unit operational.
- Robust design allows the unit to be grabbed as part of the pole without damage.
- USB connector faces downwards to protect against splashes and avoid connector damage.

WARRANTY

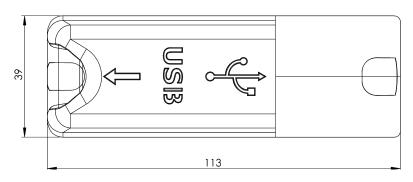
The PVPm Series of Pole mounted USB chargers are manufactured using rugged components to provide years of service in demanding commercial environments and are covered by a three year return to base warranty.

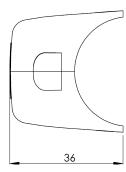
POLE MOUNTED USB CHARGER

Part Number	Description	Dimensions (mm)	Weight
PVPm-S	Pole mounted USB charging unit	113 x 39 x 37	57g

TECHNICAL DATA

Output voltage 5Vdc +/- 0.2V for BC 1.2V and up to 9Vdc for QC 3.0 Output power 10W for BC 1.2 and 12W for QC 3.0 Application Charges all USB devices Including Apple and Android Transient voltage protection Meets ISO7637-2 International standard for 12/24V vehicles and ENG1000.4.4 and 4.5 Output noise 450mV pk-pk Off load current (quiescent current) 4.17mA Power conversion efficiency 90% Isolation Non-isolated, >400Vrms only between casing and terminals. For full galvanic isolation, see PV Railway Operating temperature -25°C to +55° to meet this specification table Storage temperature -25°C to +100°C Osework 95% max., non-condensing Casework Input: 6.3mm push-in flat blade connectors Output: USB type 'A' single socket - tested to 10,000 mating cycles Output indicator LED indicates unit operational Mounting method Screw mounting to vertical pole (Ø35mm) Protection: Over voltage and Undervoltage Reverse Polanty to Transients Catastrophic protection Limited by temperature sensing circuit Limited by sensing circuit period by filters and rupsed component selection internal fuse Popprals	Input voltage range	9-32Vdc		
Application Charges all USB devices Including Apple and Android Transient voltage protection Meets ISO7637-2 International standard for 12/24V vehicles and ENG1000.4.4 and 4.5 Output noise c50mV pk-pk Off load current (quiescent current) c1.7mA Power conversion efficiency 90% Isolation Non-isolated, >4000 vrms only between casing and terminals. For full galvanic isolation, see PV Railway Operating temperature -25°C to +55° to meet this specification table Storage temperature -25°C to +100°C Operating humidity 95% max, non-condensing Casework Dark grey polycarbonate body (R118 + EN45545 materials approved) Connections Input: 6.3mm push-in flat blade connectors Output: USB type 'A' single socket - tested to 10,000 mating cycles Output indicator LED indicates unit operational Screw mounting to vertical pole (Ø35mm) Protection: Over Current Over heat Limited by current sensing circuit Limited by sensing circuit Protected by filters and rugged component selection Internal fuse Designed to EN50498, EN55032, EN50155, EN50121-3-2, EN45545, ISO 7637-2 & R118 To meet railway approval to EN50155 the PVPro is to be used in conjunction with a PV6i-R, PV12i-R or PV24i-R Markings CE and E marked	Output voltage	5Vdc +/- 0.2V for BC 1.2V and up to 9Vdc for Q.C 3.0		
Meets ISO7637-2 International standard for 12/24V vehicles and ENG1000.4.4 and 4.5 Output noise	Output power	10W for BC1.2 and 12W for Q.C 3.0		
Output noise	Application	Charges all USB devices Including Apple and Android		
Solation	Transient voltage protection	Meets ISO7637-2 International standard for 12/24V vehicles and EN61000.4.4 and 4.5		
Power conversion efficiency 90% Isolation Non-isolated, >400Vrms only between casing and terminals. For full galvanic isolation, see PV Railway Operating temperature -25°C to +55° to meet this specification table Storage temperature -25°C to +100°C Operating humidity 95% max., non-condensing Casework Dark grey polycarbonate body (R118 + EN45545 materials approved) Connections Input: 6.3mm push-in flat blade connectors Output: USB type 'A' single socket - tested to 10,000 mating cycles Output indicator LED indicates unit operational Mounting method Screw mounting to vertical pole (Ø35mm) Protection: Over Current Over heat Overvoltage and Undervoltage Reverse Polarity Transients Catastrophic protection Over Output: USB type 'A' single socket - tested to 10,000 mating cycles Overvoltage and Undervoltage Reverse Polarity Transients Catastrophic protection Over Current Over heat Over he	Output noise	<50mV pk-pk		
Non-isolated, >400Vrms only between casing and terminals. For full galvanic isolation, see PV Railway Operating temperature -25°C to +55° to meet this specification table Storage temperature -25°C to +100°C Operating humidity 95% max., non-condensing Casework Dark grey polycarbonate body (R118 + EN45545 materials approved) Connections Input: 6.3mm push-in flat blade connectors Output: USB type 'A' single socket - tested to 10,000 mating cycles Output indicator LED indicates unit operational Mounting method Screw mounting to vertical pole (Ø35mm) Protection: Over Current Over heat Over heat Overvoltage and Undervoltage Reverse Polarity Transients Catastrophic protection Internal fuse Approvals 2014/30/EU The general EMC directive Regulation 10 The automotive directive 93/68/EEC The CE marking directive ENSO498. ENS5032, ENS0155, ENS0121-3-2, EN45545, ISO 7637-2 & R118 To meet railway approval to ENS0155 the PVPro is to be used in conjunction with a PV6i-R, PV12i-R or PV24i-R Markings CE and E marked	Off load current (quiescent current)	<1.7mA		
Storage temperature -25°C to +55° to meet this specification table	Power conversion efficiency	90%		
Storage temperature -25°C to +100°C Operating humidity 95% max., non-condensing Casework Dark grey polycarbonate body (R118 + EN45545 materials approved) Connections Input: 6.3mm push-in flat blade connectors Output: USB type 'A' single socket - tested to 10,000 mating cycles Output indicator LED indicates unit operational Screw mounting to vertical pole (Ø35mm) Protection: Over Current Over heat Overvoltage and Undervoltage Reverse Polarity Transients Catastrophic protection Approvals Approvals 2014/30/EU The general EMC directive Regulation 10 The automotive directive 93/68/EEC The CE marking directive EN50498, EN55032, EN550155, EN50121-3-2, EN45545, ISO 7637-2 & R118 To meet railway approval to EN50155 the PVPro is to be used in conjunction with a PV6i-R, PV12i-R or PV24i-R Markings Casework Dark grey polycarbonate body (R118 + EN45545 materials approved) Limited by sensing circuit Limited by sensing circuit Limited by current sensing circuit Limited by se	Isolation	Non-isolated, >400Vrms only between casing and terminals. For full galvanic isolation, see PV Railway		
Operating humidity Operating humidity Operating humidity Oark grey polycarbonate body (R118 + EN45545 materials approved) Connections Input: 6.3mm push-in flat blade connectors Output: USB type 'A' single socket - tested to 10,000 mating cycles Output indicator LED indicates unit operational Screw mounting to vertical pole (Ø35mm) Protection: Over Current Over heat Overvoltage and Undervoltage Reverse Polarity Transients Catastrophic protection Approvals Approvals Designed to EN50498, EN55032, EN50155, EN50121-3-2, EN45545, ISO 7637-2 & R118 To meet railway approval to EN50155 the PVPro is to be used in conjunction with a PV6i-R, PV12i-R or PV24i-R Markings CE and E marked	Operating temperature	-25°C to +55° to meet this specification table		
Casework Dark grey polycarbonate body (R118 + EN45545 materials approved) Connections Input: 6.3mm push-in flat blade connectors Output: USB type 'A' single socket - tested to 10,000 mating cycles Output indicator LED indicates unit operational Screw mounting to vertical pole (Ø35mm) Protection: Over Current Over heat Overvoltage and Undervoltage Reverse Polarity Transients Catastrophic protection Approvals Obesigned to EN50498, EN5032, EN50155, EN50121-3-2, EN45545, ISO 7637-2 & R118 To meet railway approval to EN50155 the PVPro is to be used in conjunction with a PV6i-R, PV12i-R or PV24i-R Markings Canada Vinder of the American Survey of the Survey of S	Storage temperature	-25°C to +100°C		
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Output indicator LED indicates unit operational Mounting method Screw mounting to vertical pole (Ø35mm) Protection: Over Current Over heat Overvoltage and Undervoltage Reverse Polarity Transients Catastrophic protection Approvals Approvals Designed to EN50498, EN55032, EN50155, EN50121-3-2, EN45545, ISO 7637-2 & R118 To meet railway approval to EN50155 the PVPro is to be used in conjunction with a PV6i-R, PV12i-R or PV24i-R Markings Limited by current sensing circuit Limited by temperature sensing circuit Limited by sensing circuit Limited by sensing circuit Limited by sensing circuit Limited by sensing circuit Protected by filters and rugged component selection Internal fuse 2014/30/EU The general EMC directive Regulation 10 The automotive directive 93/68/EEC The CE marking directive Posigned to EN50498, EN55032, EN50155, EN50121-3-2, EN45545, ISO 7637-2 & R118 To meet railway approval to EN50155 the PVPro is to be used in conjunction with a PV6i-R, PV12i-R or PV24i-R Markings CE and E marked	Casework	Dark grey polycarbonate body (R118 + EN45545 materials approved)		
Mounting method Screw mounting to vertical pole (Ø35mm) Limited by current sensing circuit Limited by temperature sensing circuit Limited by sensing circuit Protected by filters and rugged component selection Internal fuse 2014/30/EU The general EMC directive Regulation 10 The automotive directive 93/68/EEC The CE marking directive Designed to EN50498, EN55032, EN50155, EN50121-3-2, EN45545, ISO 7637-2 & R118 To meet railway approval to EN50155 the PVPro is to be used in conjunction with a PV6i-R, PV12i-R or PV24i-R Markings CE and E marked	Connections			
Protection: Over heat Overvoltage and Undervoltage Reverse Polarity Transients Catastrophic protection Approvals Designed to Markings Limited by current sensing circuit Limited by temperature sensing circuit Limited by sensing circuit Protected by filters and rugged component selection Internal fuse 2014/30/EU The general EMC directive Regulation 10 The automotive directive 93/68/EEC The CE marking directive EN50498, EN55032, EN50155, EN50121-3-2, EN45545, ISO 7637-2 & R118 To meet railway approval to EN50155 the PVPro is to be used in conjunction with a PV6i-R, PV12i-R or PV24i-R Markings CE and E marked	Output indicator	LED indicates unit operational		
Overvoltage and Undervoltage Reverse Polarity Transients Catastrophic protection Approvals Designed to Narkings Limited by temperature sensing circuit Limited by sensing circuit L	Mounting method	Screw mounting to vertical pole (Ø35mm)		
Regulation 10 The automotive directive 93/68/EEC The CE marking directive EN50498, EN55032, EN50155, EN50121-3-2, EN45545, ISO 7637-2 & R118 To meet railway approval to EN50155 the PVPro is to be used in conjunction with a PV6i-R, PV12i-R or PV24i-R Markings CE and E marked	Over heat Overvoltage and Undervoltage Reverse Polarity Transients	Limited by temperature sensing circuit Limited by sensing circuit Limited by sensing circuit Protected by filters and rugged component selection		
To meet railway approval to EN50155 the PVPro is to be used in conjunction with a PV6i-R, PV12i-R or PV24i-R Markings CE and E marked	Approvals	Regulation 10 The automotive directive		
	Designed to	To meet railway approval to EN50155 the PVPro is to be used in conjunction with a PV6i-R, PV12i-R or		
IP Rating: IP30	Markings	CE and E marked		
	IP Rating:	IP30		





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