

USB Series

rail
series



Dual Port USB Chargers



DUH-LS model shown



DUH-LB model shown

HIGHLIGHTS...

- Specially designed for the Mass Transit Industry (Bus and Railway car)
- Single or Dual USB independent ports
- Provides 2.1A on USB Type-A port and 3A on USB Type-C port, according to the USB 3.1 Device standard
- Overcurrent and short circuit protected
- Thermal protection
- Flush mounting
- Auto dimming Power ON indicator (optional)
- IP50 enclosure (Passenger side)

GENERAL DESCRIPTION

The Transtech's USB series products are specially designed for the mass transit industry. The **USB** series chargers meet the requirements for shock and vibration according to IEC 61373 and for electromagnetic compatibility according to EN 50121 and FCC part 15B for Class A devices. The charger provides fast and reliable charging capability for any modern mobile devices such as smartphones and tablets. Its robust design is suitable for high volume of plug/unplug cycle in high user traffic area.

The **USB** series is available with 2 different types of port :

- USB Type-A port 5V/2.1A;
- USB Type-C port 5V/3A

The thermal protection prevents the equipment from being damaged or at risk in case of prolonged overload in abnormally high temperature operation.

Mounting hardware (including tamper proof screws and countersunk flush type washers if necessary) can be provided on request.

The **USB** series chargers offers two connection possibilities: or same connector type with two insulated wire harness. Custom wire length on request. Unit is reverse voltage protected.

Each USB port of the **USB** series chargers is overcurrent protected. In case of an overload or short circuit, the circuit will automatically shutdown and reset itself once overcurrent disappears. For critical failure, the **USB** series chargers have a 5 amp fuse on their power input. For the dual port chargers, If one USB port is overloaded or in short-circuit, the other one will continue to operate normally. Both ports are individually controlled.

STANDARD COMPLIANCE

Random Vibration Operational/Endurance, Mechanical Shocks	EN 50155
Fire, Smoke, Toxicity	NFPA 130
Electromagnetic compatibility	Designed to meet EN 50121, FCC part 15B Class A device, SAE J1113-11

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TECHNICAL SPECIFICATIONS

Conditions (Unless otherwise specified): Operating Temperature = 25°C; Input Voltage=typical value; Unit installed with air flow convection for cooling purposes.

PARAMETERS	SYMBOL	MIN.	TYPICAL	MAX.	UNIT
Input Voltage Range (DC)	V_{INDC}	9	12 or 24	32	V _{DC}
Isolation V _{IN} to V _{OUT}	V_{ISOIO}		1500		V _{AC}
Output Voltage (for both types of port)	V_{OUT}	4.8 ⁽¹⁾	5.0	5.1 ⁽²⁾	V _{DC}
Maximum Charging Current (Type-A port)	$I_{OUTMAX A}$		2.4	2.5	A _{DC}
Maximum Charging Current (Type-C-port)	$I_{OUTMAX C}$		3.0	3.1	A _{DC}
Maximum Total Charging Current (Both Ports)	I_{TOTMAX}		5.1 ⁽⁴⁾	5.2	A _{DC}
Operating Temperature	T_{OPE}	-40	25	60 ⁽³⁾	°C
Power Derated Temperature ⁽³⁾	T_{PD}	53	55	57	°C
Over Temperature Shutdown ⁽³⁾	T_{OVT}	63	65	67	°C
Power Resume Temperature	T_{PR}	38	40	42	°C
Storage Temperature	T_{STO}	-40	25	85	°C
Efficiency	η		90		%
Number of plug/unplug cycles (USB connectors)	Cyc		5,000		Cycles
Weight	W	0.7	0.8	0.9	kg

1. Overload condition.
2. No load.
3. Current limited to 1.5A per charging port when temperature exceeds T_{PD}. Full power resume until temperature decrease to T_{PR}.
4. Maximum output current depends on the device charging profile

SUPPORTED CHARGING PROFILES

Type-A Port Charging Profiles	<ul style="list-style-type: none">• BC 1.2 (1.5A)• Apple 2.4A (2.4A)• Samsung AFC (2.1A)• Qualcomm QC3.0 (2.1A)
Type-C Port Charging Profiles	<ul style="list-style-type: none">• BC 1.2 (1.5A)• Apple 2.4A (2.4A)• Samsung AFC (2.1A)• Qualcomm QC3.0 (2.1A)• Power Delivery PD (3A)

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HOW TO ORDER

DU H - R B P A 1

Number of USB Ports

DU = Dual USB port

SU = Single USB port

USB Port Type

A = USB Port Type-A

C = USB Port Type-C

H = USB Port Type-A and Type-C
(For DU models only)

Rear Enclosure Shape

C = Circular (Low Depth)

R = Rectangular

L = Rectangular (Low depth)

Front Plate Material/Color

B = Black Plastic

G = Gray Plastic

W = White Plastic

S = Stainless Steel capped

Connector Type

None = Two insulated wire harness (no connector);

Customization number should specify the harness length

W = Two insulated wire harness with a two position connector;

Customization number should specify the harness length and connector type

P = On Device Wago Connector (R rectangular enclosure only)

Y = Wago 2-Conductor Splicing Connector

Input Voltage

None = Typical 72V_{DC}; 110V_{DC}; 120V_{AC} (50-135V range)

A = Typical 37V_{DC} (24-45V_{DC} range)

B = Typical 12-24V_{DC} (9-32V_{DC} range)

Customization Number

Harness length, connector type, Client Logo, etc.

(TBD by Transtech)

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Connector Type

OPTION W : 2-Pole Connector on a 2 Wire Harness

Suggested connector WAGO #770-202 (*)

PIN ID	SIGNAL
1	V _{DC} return
2	+V _{DC}

(*) mating connector is WAGO #770-212.



#770-202



#770-112 (mating)

OPTION Y: 2-Conductor Splicing Connector (x2)

WAGO #222-412

PIN	WIRE	SIGNAL
N	Grey	V _{DC} return
L	Grey with Black Spiral	+V _{DC}



#222-412 (x2)

MECHANICAL DRAWINGS FOR DUH-LSxx2 (venting holes not shown)

