



CURTIS

Power Conversion



DC / DC Converter

Model 1415



Model 1415

DC/DC Converter



Curtis Model 1415 is a low power, isolated DC/DC converter intended to provide power to smart devices and other low power components. Easy integration and important safety protections allow vehicle OEMs to provide user-friendly features to enhance the driver's experience.

See a 360° view of the 1415 model at:
curtisinstruments.com/360view

FEATURES

- ▶ Output allows charging of smart devices, thereby improving productivity and the operator experience.
- ▶ Output isolation/regulation, over-voltage protection, reverse polarity protection and ESD protection ensure safe operation.
- ▶ IP65 protection allows use in harsh environments.
- ▶ Optional USB panel receptacle (for 5 VDC models) provides a total solution.
- ▶ Molex Mini-fit Jr. connectors allow easy installation and wiring.
- ▶ Compact housing minimizes weight and allows for optimal use of available mounting space.
- ▶ Provides power to auxiliary electrical circuits on an electrical vehicle without battery tapping, thereby increasing safety and reliability.
- ▶ High-efficiency lowers energy usage and generates less heat.



USB port available by itself (1415E-0003, 4, 5) or packaged with the DC/DC converter (1415E-0001, 2).

MODEL CHART

Model	Nom. Input Voltage (VDC)	Nom. Output Voltage (VDC)	Nom. Output Current (A)	USB Receptacle Included
1415E-0001	36 – 80	5	0 – 2.1	Yes
1415E-0002	12 – 24	5	0 – 2.1	Yes
1415E-0003	36 – 80	12	0 – 1	No
1415E-0004	36 – 80	5	0 – 2.1	No
1415E-0005	12 – 24	5	0 – 2.1	No

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SPECIFICATIONS



Model		1415E-0001 / 0004	1415E-0002 / 0005	1415E-0003
Nominal Input Voltage (VDC)		36 – 80	12 – 24	36 – 80
Continuous Input Voltage Range (VDC)		25 – 105	8 – 36	25 – 105
Max. Input Voltage (VDC)		<110	<37.5	<110
Input Under-Voltage Lockout (UVLO)	Turn-On Voltage Threshold (VDC)	15.5 ± 0.5	7.2 ± 0.3	15.5 ± 0.5
	Turn-Off Voltage Threshold (VDC)	4 ± 0.3	3 ± 0.5	4 ± 0.3
Max. Input Current (A)		0.6	1.8	0.7
Max. Input Current @ No Load		10mA @36Vin	23mA @12Vin	9mA @36Vin
		6mA @80Vin	14mA @24Vin	7mA @80Vin
Max. Input Current @ Output Short		0.08A @36Vin	0.12A @12Vin	0.08A @36Vin
		0.05A @80Vin	0.08A @24Vin	0.05A @80Vin
Max. Reverse Polarity Input Voltage (VDC)		110	36	110
Internal Input Fuse Ø 3.6*10 mm		250V/2A	250V/5A	250V/2A
Reflected Input Ripple Current		0.08A @36Vin	0.06A @12Vin	0.06A @36Vin
		0.06A @80Vin	0.06A @24Vin	0.06A @80Vin
Output Voltage Range (VDC)		4.8 – 5.2	4.8 – 5.2	11.75 – 12.25
Operating Output Current Range (A)		0 – 2.1	0 – 2.1	0 – 1
Output Voltage Ripple and Noise (mV)		<250	<250	<200
Output Current Limit (A)		2.6 ± 0.4	2.6 ± 0.4	1.5 ± 0.2
Output Short Current (A)		<0.9	<0.9	<0.6
Output Over Voltage Protection Point (VDC)		5.9 ± 0.3 @Full Load	5.9 ± 0.3 @Full Load	14.0 ± 0.5 @Full Load
		6.7 ± 0.3 @No Load	6.7 ± 0.3 @No Load	15.3 ± 0.5 @No Load
Maximum Capacitive Load (uF)		470	470	330
Efficiency (%)		>80	>78	>84
Over Temperature Protection Point		Ambient temperature 62 ± 5 °C		
Isolation Voltage		1500VAC / 1 minute		
Isolation Resistance		>10MΩ		
Isolation Capacitance		<4000pF		

Model 1415

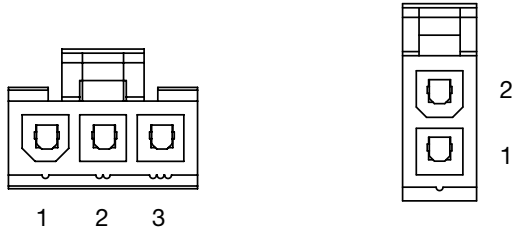
DC/DC Converter



CONNECTORS

DC/DC Converter Connectors:

For Models 1415-0001/0003



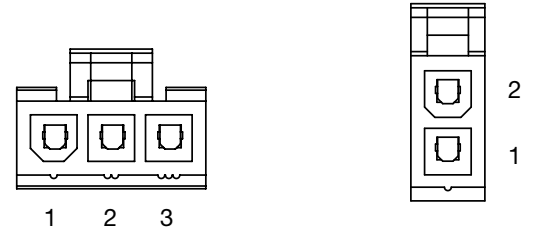
Connector: MOLEX #39-01-4031

Pin #	Description
1	Null
2	Input -
3	Input +

Connector: MOLEX #39-01-2025

Pin #	Description
1	Output +
2	Output -

For Model 1415-0002



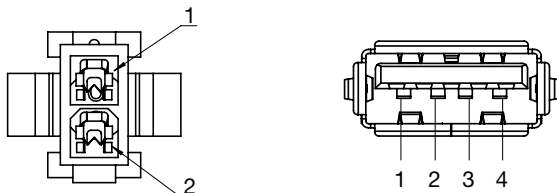
Connector: MOLEX #39-01-4031

Pin #	Description
1	Input +
2	Input -
3	Null

Connector: MOLEX #39-01-2025

Pin #	Description
1	Output +
2	Output -

USB Connectors:



Connector: MOLEX #39-01-2026

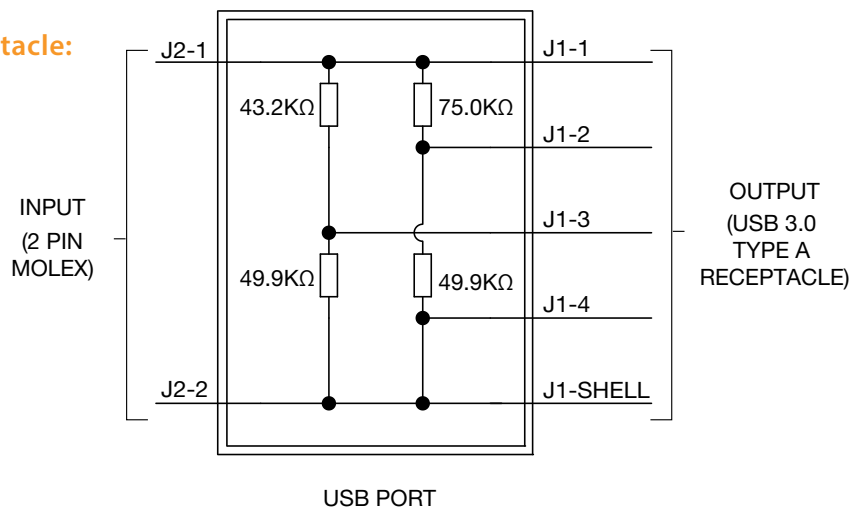
Pin #	Description
1	5V
2	GND

USB CONNECTOR ASSIGNMENT

Pin #	Description	Pin #	Description
1	VBUS	3	D +
2	D -	4	GND
		Shell	GND

WIRING DIAGRAM

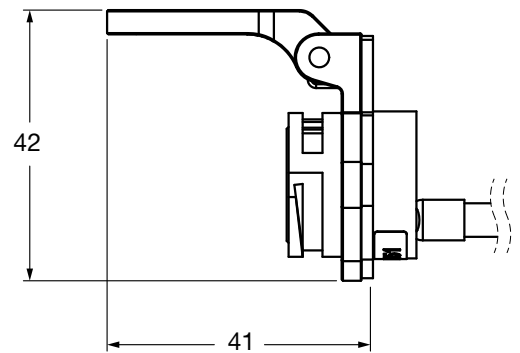
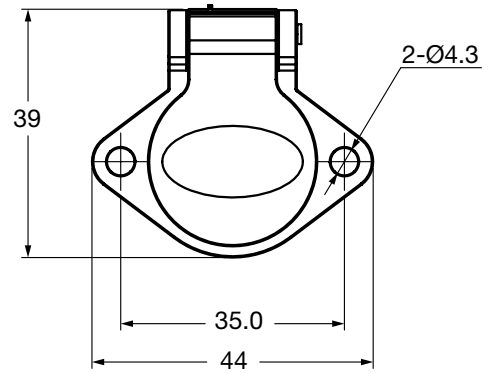
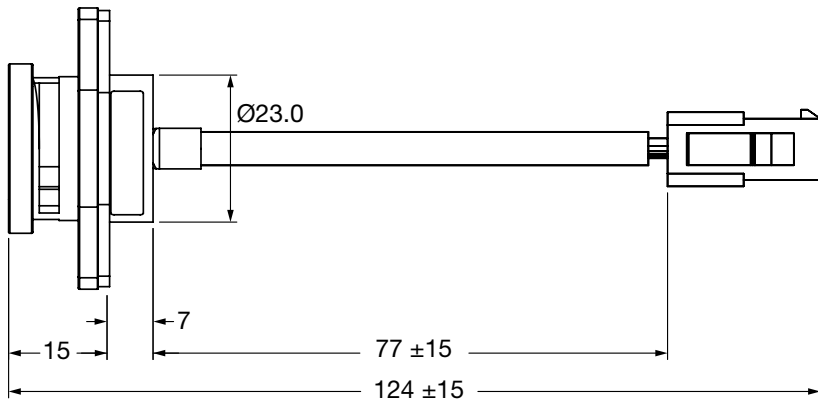
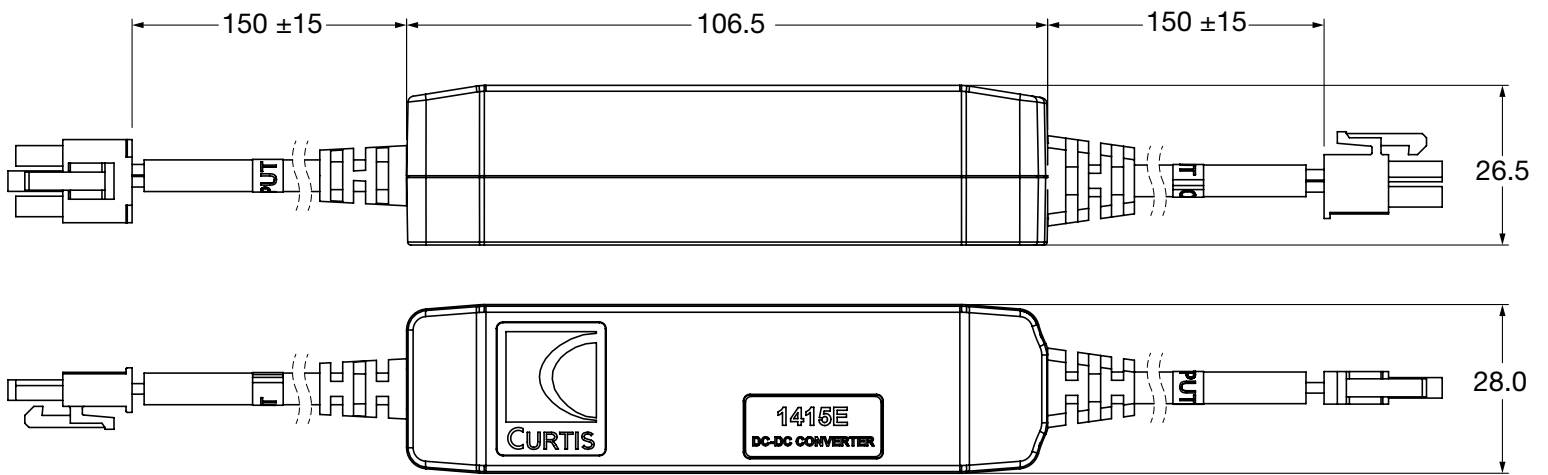
USB Panel Mount Receptacle:



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DIMENSIONS mm



WARRANTY Two year limited warranty from time of delivery.



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Specifications subject to change without notice

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