



TRUCK-TRAILER ELECTRICAL CONVERTERS



SELECTOR GUIDE

Experts in Electrical Truck-Trailer Interfacing

SEC America, LLC offers its standard line of ETC/UTC specialty DC-DC converters to handle common recurring applications.

When foreign trucks or trailers need to be coupled with domestic vehicles anywhere in the world SEC is available to solve electrical interfacing issues. These converters provide the towed vehicle not only with power signals of suitable levels, but also convey communication signals originating at the tow vehicle. Our engineering team will design custom units to adapt to most situations outside the scope of our standard line.

SEC interfaces have a long history of successful performance and have been time tested by most trailer manufacturers in the Western Hemisphere. Each unit has features that contribute to durability, longevity, and overall performance. Among the characteristics of these DC-DC interfaces:

- Quick Mounting & Connection
- Sealed Construction
- Encapsulated Circuitry
- Electronic Overload Protection
- Wide Operating Temperature Range
- Cool Operation
- High MTBF

All SEC truck-trailer interfaces are manufactured in the USA. From our facility in Burlington, Vermont, we innovate and develop new products while offering support and application guidance. The interaction of our engineering and manufacturing teams enable us to monitor quality to yield consistent, fully tested production units.

As expanding technologies are being applied in transportation equipment, increasing numbers of monitoring and control features are pushing the industry into using more elaborate standards, all to enhance safety and vehicle operation. Our engineering team endeavors to stay abreast of such developments to continuously provide customer solutions. Our years of expertise and alliances have enhanced our ability to adapt to the application of these emerging techniques.

LIMITED WARRANTY

We warrant each instrument, sold by us, or our authorized agents, to be free from defects in material and workmanship and that it will perform within applicable specifications for a period of two years after original shipment. Our obligation under this guarantee is limited to repairing or replacing any instrument or any part thereof, except fuses and pilot lights, which shall within two years after delivery to the original purchaser, be returned to us with transportation charges prepaid, prove after our examination to be thus defective.

The above limited warranties take the place of all other warranties, expressed or implied, and correction of such defects by replacement or repair shall constitute a fulfillment of all obligations under the terms of the warranties. The warranties do not cover any unit that has been damaged either in transit or by misuse, accident, or negligence. No warranty or representation by anyone other than this Company shall be binding on us.

TO RETURN A UNIT, SEND TO THE FOLLOWING ADDRESS:

SEC America, LLC / 78 Ethan Allen Drive, Suite #3 / South Burlington, VT 05403

CONTACT INFORMATION



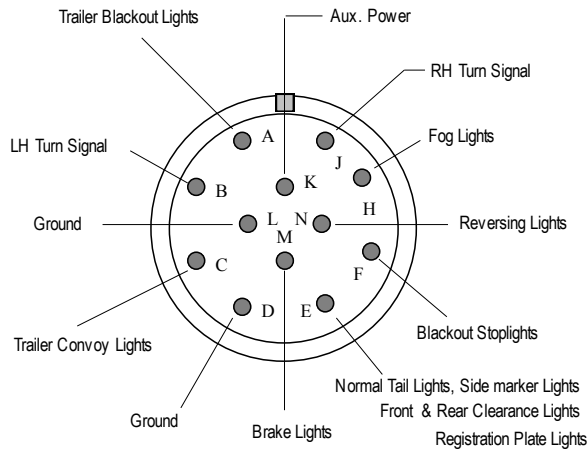
P.O. Box 2266 / South Burlington, VT 05407

TEL (802) 865-8388 / FAX (802) 865-8389

sales@secamerica.com / **secamerica.com**

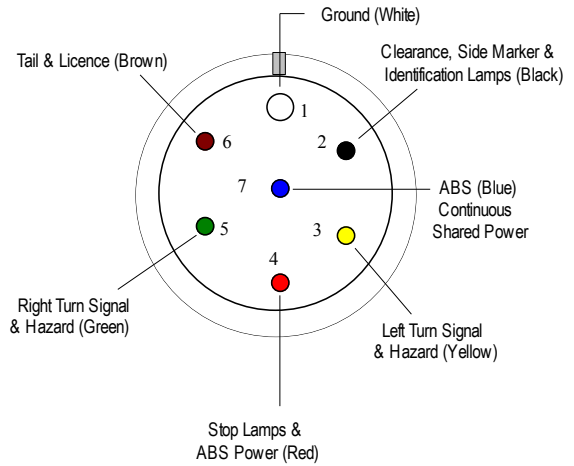
Inter Vehicle Wiring Standards – Common Configurations

Military Standard Stanag 4007 - Edition 2



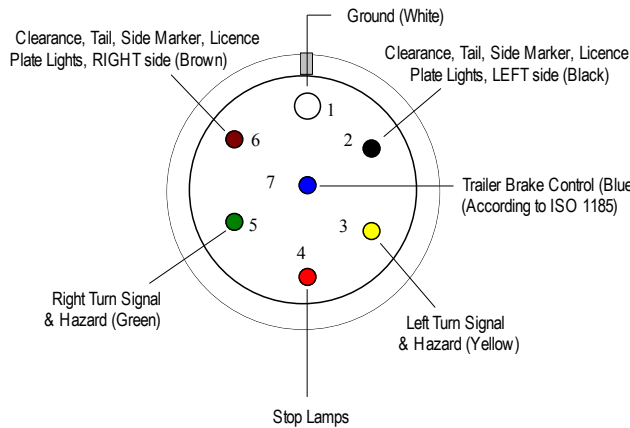
As viewed on Towing Vehicle

North American Standard SAE 560



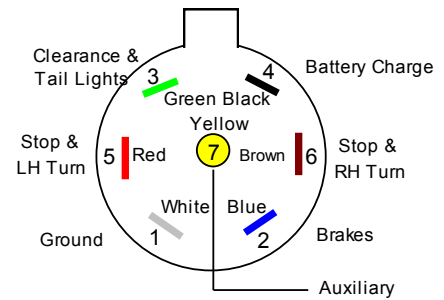
As viewed on Towing Vehicle

Standard ISO 1185 (Connector 24N)



As viewed on Towing Vehicle

Standard RV - 7 Way Blade Type

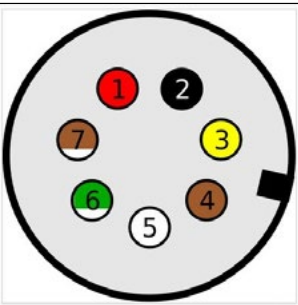


As viewed on Towing Vehicle

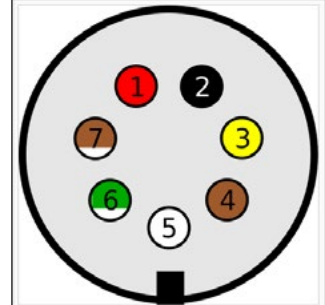
ISO 7638 Standards for Heavy Vehicle ABS and EBS Applications

(types -1 and -2 are distinguished by key tab positions)

ISO 7638-2	Common to Both Configurations			ISO 7638-1
Signal	Color	mm ² /AWG	Pin	Signal
+12V Permanent for Control Valves	Red	4/11	1	+24V Permanent for Control Valves
+12V via ignition lock for electronics	Black	1.5/15	2	+24V via ignition lock for electronics
Ground for electronics (Pin #2)	Yellow	1.5/15	3	Ground for electronics (Pin #2)
Ground for control valves (Pin #1)	Brown	4/11	4	Ground for control valves (Pin #1)
ABS Fault indication	White	1.5/15	5	ABS Fault indication
CAN H, for EBS and ABS	Green/White	1.5/15	6	CAN H, for EBS and ABS
CAN L, for EBS and ABS	Brown/White	1.5/15	7	CAN L, for EBS and ABS

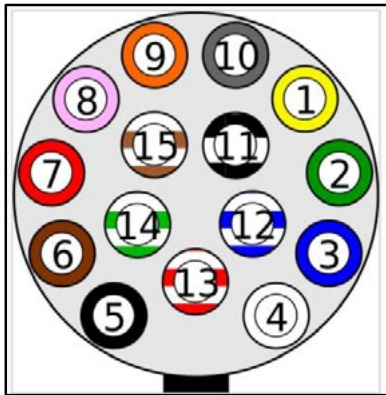


As Viewed on Towing Vehicle



As Viewed on Towing Vehicle

15 Pin ISO Standard 12098



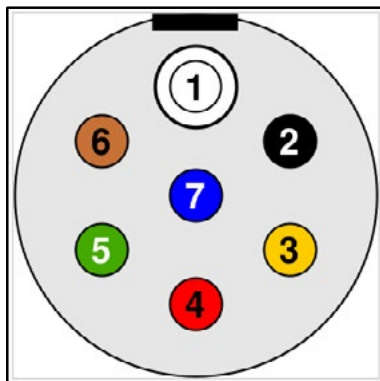
As Viewed on Towing Vehicle

Pin	Signal	Color	Wire size	
			mm ²	AWG
1	Left Turn	Yellow	1.5	15
2	Right Turn	Green	1.5	15
3	Rear fog lights	Blue	1.5	15
4	Ground for pins 1 through 3 & 5 through 12	White	2.5	13
5	Left Side - Tail, clearance, marker, identification lights and registration plate	Black	1.5	15
6	Right Side - Tail, clearance, marker, identification lights and registration plate	Brown	1.5	15
7	Stop Lights	Red	1.5	15
8	Reversing Lights	Pink	1.5	15
9	+24V permanent power	Orange	2.5	13
10	Brake Wear Indicator	Grey	1.5	15
11	Applied parking brake due to air pressure loss	Blk/White	1.5	15
12	Lift Axle	Blue/White	1.5	15
13	Ground for pins 14 and 15	Red/White	2.5	13
14	CAN H, not intended for ABS or EBS*	Grn/White	1.5	15
15	CAN L, not intended for ABS or EBS*	Brn/White	1.5	15

*ABS & EBS connection required through ISO 7638-1

This connector is present on newer heavy duty commercial trucks and trailers following the ISO 12098 standard and is intended to replace the combination of connectors according to standards ISO 1185 and ISO 3731. The 15-pin connector is not designed to replace the ISO 7638 connector.
















7 Pin ISO Standard 3731















As Viewed on Towing Vehicle

Pin	Signal	Color	Wire size	
			mm ²	AWG
1	Ground (socket)	White	2.5	13
2	ABS Fault Indication	Black	1.5	15
3	Reversing Lights	Yellow	1.5	15
4	+24V permanent power	Red	2.5	13
5	Control via Ground	Green	1.5	15
6	+24V via ignition lock	Brown	2.5	15
7	Rear fog lights	Blue	1.5	15

On newer vehicles ISO 3731 and ISO 1185 are being replaced by connectors conforming to ISO 7638 and ISO 12098 respectively

MODEL	Input 1	Input 2	Output	Electrical Specifications	Mechanical Drawing
UTC 2412BD	 7 PIN SAE 560 12/24 Volts	 Not Available	 6 Ft 12 Volts	PG. 8	PG. 9
ETC 1224B	 7 PIN SAE 560 12 Volts	 Not Available	 7 PIN SAE 560 24 Volts	PG. 10	PG. 11
ETC 1224-7	 7 PIN SAE 560 12 Volts	 Not Available	 12 PIN NATO 24 Volts	PG. 12	PG. 13
UTC 2412B	 7 PIN SAE 560 24 Volts	 Not Available	 7 PIN SAE 560 12 Volts	PG. 14	PG. 15
UTC 2412-7B	 12 PIN NATO 24 Volts	 7 PIN SAE 560 24 Volts	 7 PIN JAE 560 12 Volts	PG. 16	PG. 17

MODEL	Input 1	Input 2	Output	Electrical Specifications	Mechanical Drawing
UTC 2412-7H	 <p>12 PIN NATO 24 Volts</p>	 <p>7 PIN SAE 560 12 Volts</p>	 <p>4 Ft 7 Wires 12 Volts</p>	PG. 18	PG. 19
UTC 2412-8	 <p>12 PIN NATO 24 Volts</p>	 <p>Not Available</p>	 <p>7 PIN SAE 560 12 Volts</p>	PG. 20	PG. 21
UTC 2412-RVEB	 <p>12 PIN NATO 24 Volts</p>	 <p>Not Available</p>	 <p>7 PIN RV 12 Volts</p>	PG. 22	PG. 23
UTC 2412-GD	 <p>12 Ft 7 Wires 24 Volts</p>	 <p>Not Available</p>	 <p>12 Ft 7 Wires 12 Volts</p>	PG. 24	PG. 25

Model UTC 2412BD

Electrical Specifications

DESIGN FEATURES:

- Wide Range Input Voltage
- High Efficiency Design
- Hi Ingress Rating, IP 676
- Low Voltage Cutout
- High Voltage Cutout
- Electronically Current Limited
- Thermally Protected
- Low No Load Power Consumption
- All Aluminum Anodized Housing
- 6 Point Mounting



INPUT 1



7 PIN SAE 560 | ISO 1185
24V/12V (auto adjust)

INPUT 2



Not Available

OUTPUT



6 Ft Hard Wire
7 Wires | 12V

Input/Output Function Table for UTC 2412BD

Adjusts to Input Automatically

(24 Volts) INPUT			(12 Volts) INPUT			(12 Volts) OUTPUT		
Function	Color	ISO 1185 Pin #	Function	Color	JAE 560 Pin #	Terminated Wire	Color	Function
Ground	White	1	Ground	White	1	X	White	Ground
Left Side - Tail, Marker, Clearance, License Lights	Black	2	Clearance, ID, Lights	Black	2	X	Black	Clearance, ID, Lights
Left Turn Sig.	Yellow	3	Left Turn Signal	Yellow	3	X	Yellow	Left Turn Signal
Normal Stop Lights	Red	4	Normal Stop Lights	Red	4	X	Red	Normal Stop Lights
Right Turn Signal	Green	5	Right Turn Signal	Green	5	X	Green	Right Turn Signal
Right Side - Tail, Marker, Clearance, License Lights	Brown	6	Tail, Marker, License Lights	Brown	6	X	Brown	Tail, Marker, License Lights
Trailer Aux Power	Blue	7	Constant Power	Blue	7	X	Blue	Constant Power

Output Cable Length - 72 in.(-0+3)

INPUT VOLTAGE RANGE	21-30 VDC OR 11-16 VDC
INPUT CURRENT	15A max. per Circuit
OUTPUT VOLTAGE	13.6 +, - 0.3 V per circuit
OUTPUT CURRENT	15A per line (BRN, BLK, RED, BLUE) 10A per line (YEL, GRN)
OUTPUT REGULATION	0.2V over entire input voltage and load current range

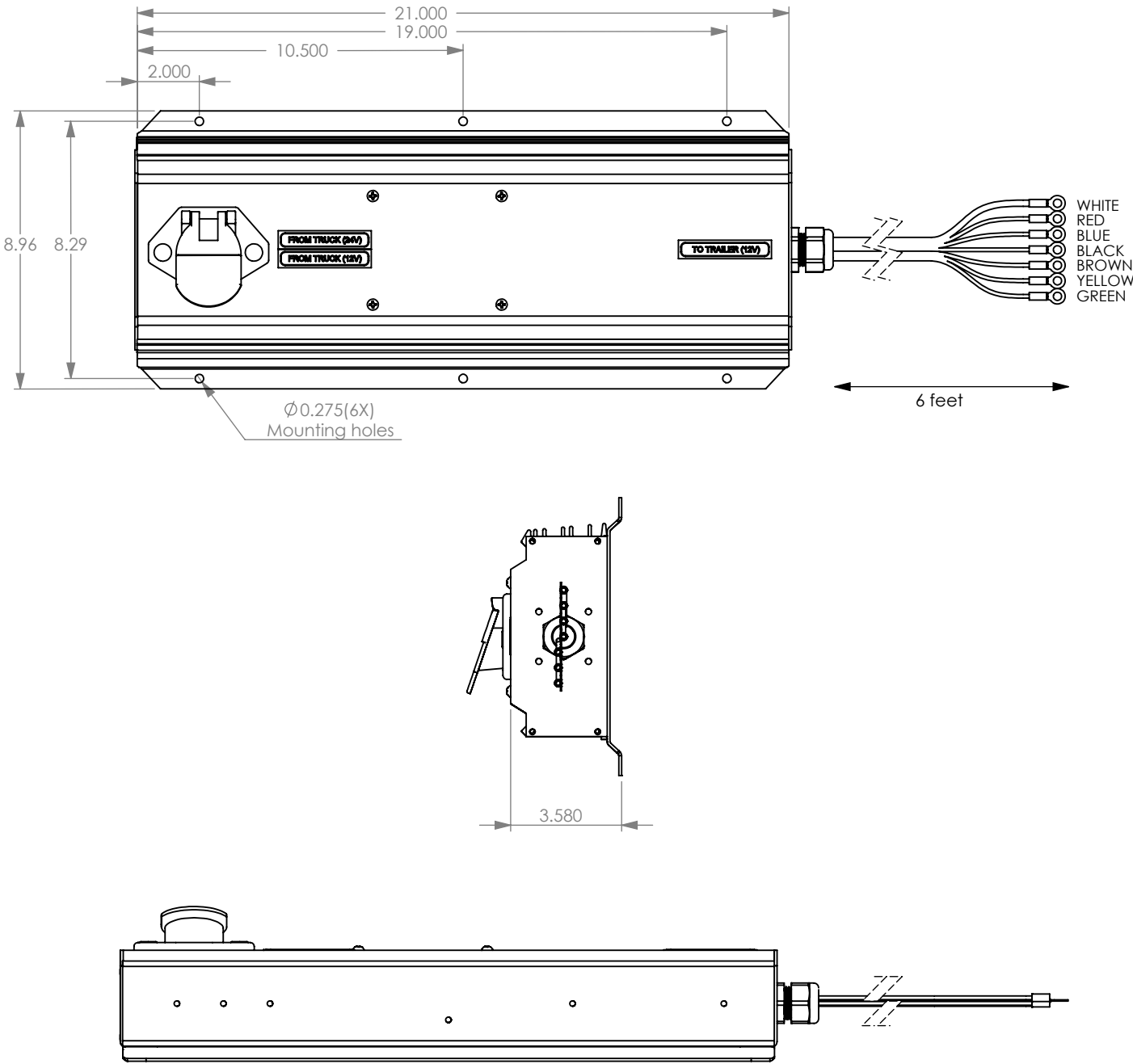
OPERATING TEMPERATURE	-40C to +60C
STORAGE TEMPERATURE	-60C to +125C
OVERLOAD PROTECTION	Electronic
EFFICIENCY	92% Typical
CONSTRUCTION	BLACK ANODIZED ALUMINUM
WEIGHT	14 lbs./ 6.5 kg. total

NOTE: Specifications are subject to change without notice.

Model UTC 2412BD

Mechanical Drawing

- Drawing No. UTC 2412BD Trailer Converter
- REV 2
- Scale 1:5



Model ETC 1224B

Electrical Specifications

DESIGN FEATURES:

- Wide Range Input Voltage
- High Efficiency Design
- Hi Ingress Rating, IP 676
- Low Voltage Cutout
- High Voltage Cutout
- Electronically Current Limited
- Thermally Protected
- Low No Load Power Consumption
- All Aluminum Anodized Housing
- 6 Point Mounting



INPUT 1



7 PIN SAE 560
12V

INPUT 2



Not Available

OUTPUT



7 PIN SAE 560
ISO 1185 | 24V

Input/Output Function Table for ETC 1224B									
Function	Color	(12 Volts)				(24 Volts)		Color	Function
		INPUT				OUTPUT			
		JA E 560	Pin #			ISO 1185	Pin #		
Ground	White		1	→	X	1	White	Ground	
Clearance, ID, Lights	Black		2	→	X	2	Black	Left Side - Tail, Marker, Clearance, License Lights	
Left Turn Sig.	Yellow		3	→	X	3	Yellow	Left Turn Sig.	
Normal Stop Lights	Red		4	→	X	4	Red	Normal Stop Lights	
Right Turn Signal	Green		5	→	X	5	Green	Right Turn Signal	
Tail, Marker , License Lights	Brown		6	→	X	6	Brown	Right Side - Tail, Marker, Clearance, License Lights	
Constant Power	Blue		7	→	X	7	Blue	Trailer Aux Power	

INPUT VOLTAGE RANGE	11-17 VDC (nominal) Will withstand up to 24V
INPUT CURRENT	20A max. per Circuit
OUTPUT VOLTAGE	25.6 +, - 0.3 V per circuit
OUTPUT CURRENT	10A per line
OUTPUT REGULATION	0.2V over entire input voltage and load current range

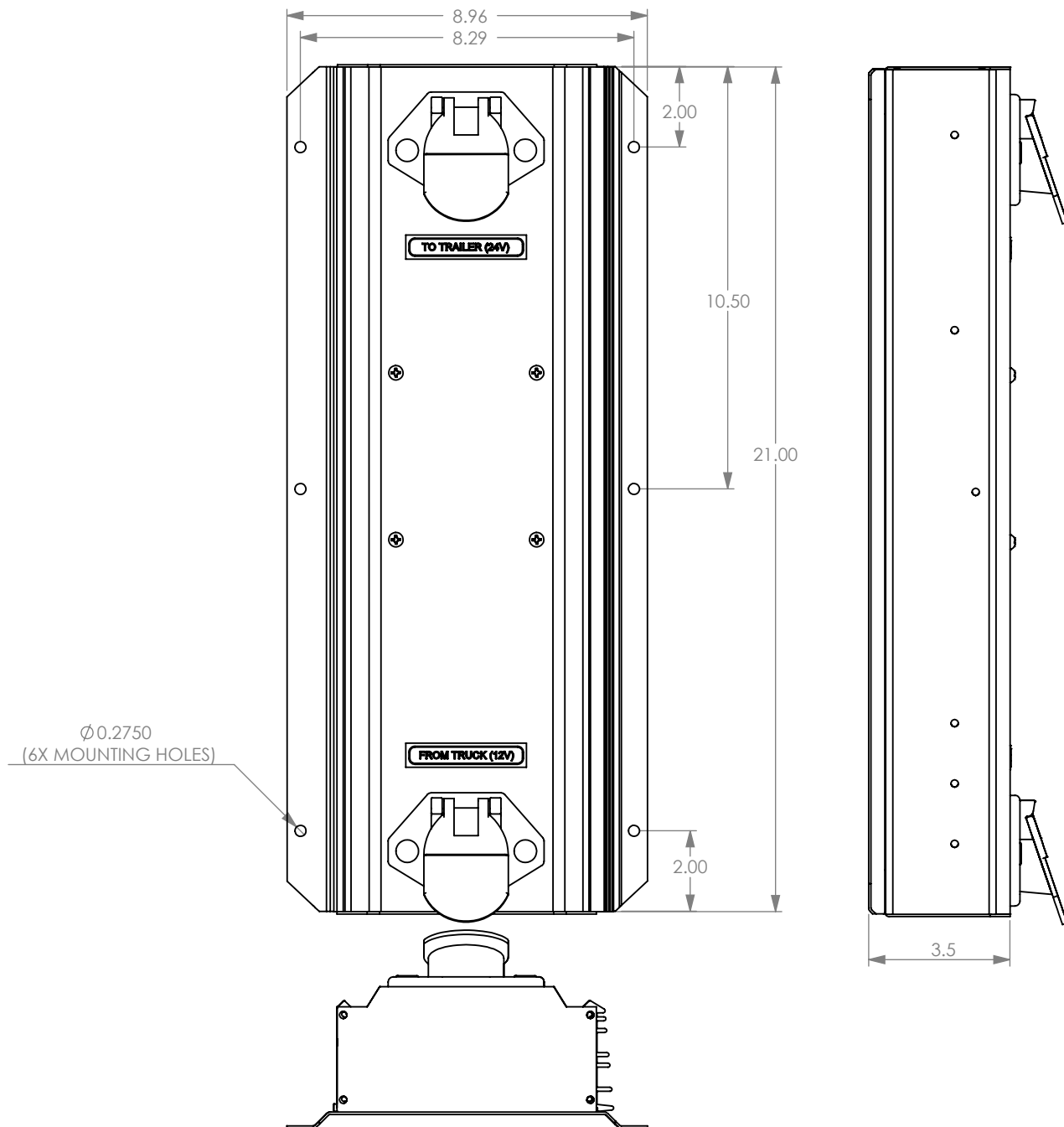
OPERATING TEMPERATURE	-40C to +60C
STORAGE TEMPERATURE	-60C to +125C
OVERLOAD PROTECTION	Electronic
EFFICIENCY	92% Typical
CONSTRUCTION	BLACK ANODIZED ALUMINUM
WEIGHT	14 lbs./ 6.5 kg. total

NOTE: Specifications are subject to change without notice.

Model ETC 1224B

Mechanical Drawing

- Drawing No. ETC 1224B Trailer Converter
- REV 2
- Scale 1:4



Model ETC 1224-7

Electrical Specifications

DESIGN FEATURES:

- Wide Range Input Voltage
- High Efficiency Design
- Hi Ingress Rating, IP 676
- Low Voltage Cutout
- High Voltage Cutout
- Electronically Current Limited
- Thermally Protected
- Low No Load Power Consumption
- All Aluminum Anodized Housing
- 6 Point Mounting



INPUT 1



7 PIN SAE 560
12V

INPUT 2



Not Available

OUTPUT



12 PIN NATO
MS 75021-2 | 24V

Input/Output Function Table for ETC 1224-7

Function	Color	(12 Volts)		(24 Volts)	Color	Function
		INPUT		OUTPUT		
		JAE 560		NATO MS 75021-2		
		Pin #		Pin #		
Ground	White	1	→	D L	White	Ground
Clearance, ID, Lights	Black	2	→	E	Black	Normal Tail Lights
Tail, Marker, License Lights	Brown	6	→	E	Black	Side Marker Lights
Normal Stop Lights	Red	4	→	M	Red	Normal Stop Lights
Right Turn Signal	Green	5	→	J	Green	Right Turn Signal
Constant Power	Blue	7	→	K	Blue	Constant Power
Left Turn Sig.	Yellow	3	→	B	Yellow	Left Turn Sig.
			NOT USED	X A, C, F, H, N	NOT USED	

INPUT VOLTAGE RANGE	11-17 VDC (nominal) Will withstand up to 24V
INPUT CURRENT	20A max. per Circuit
OUTPUT VOLTAGE	25.6 +, - 0.3 V per circuit
OUTPUT CURRENT	10A per line 20A pin E
OUTPUT REGULATION	0.2V over entire input voltage and load current range

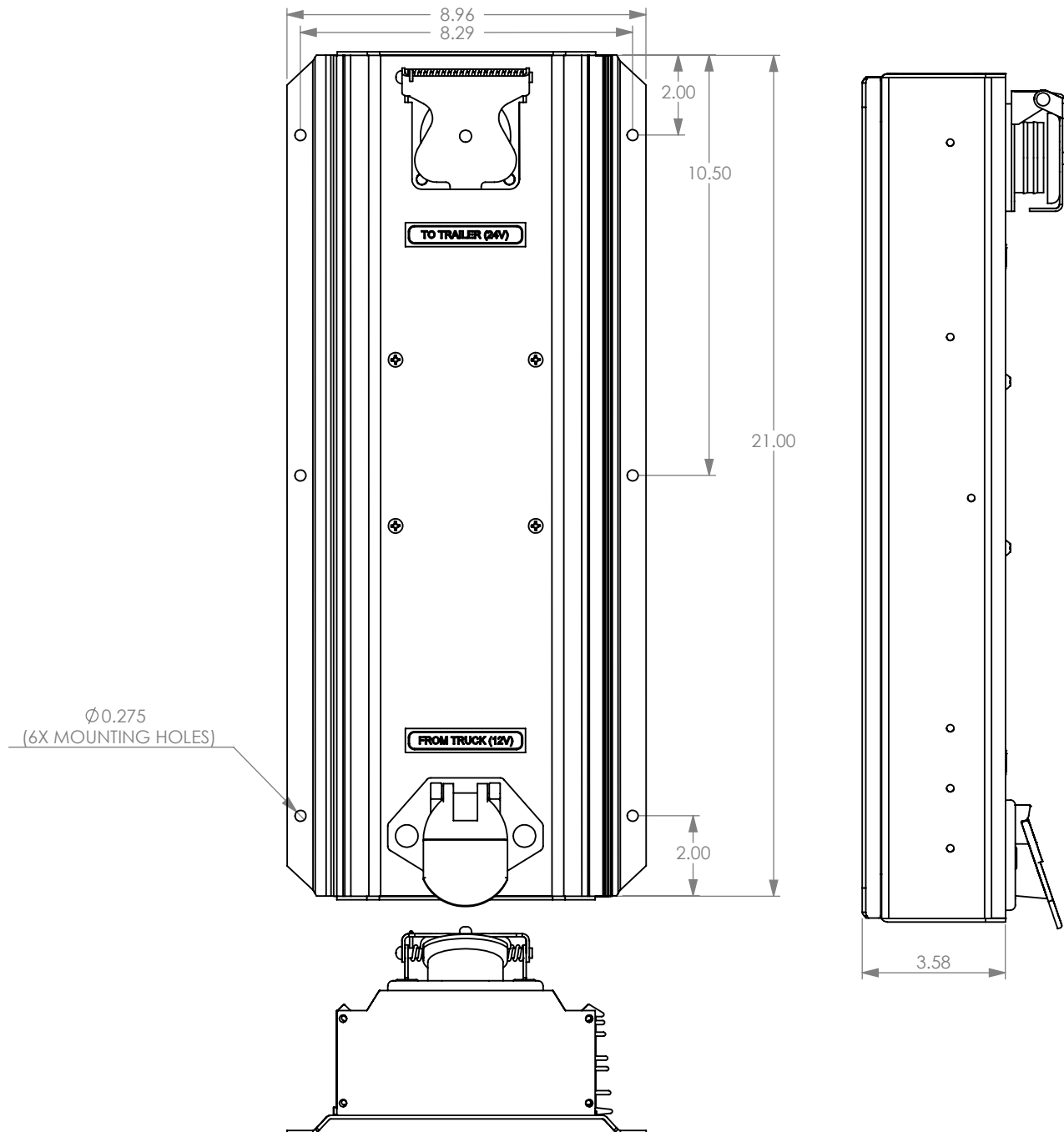
OPERATING TEMPERATURE	-40C to +60C
STORAGE TEMPERATURE	-60C to +125C
OVERLOAD PROTECTION	Electronic
EFFICIENCY	92% Typical
CONSTRUCTION	BLACK ANODIZED ALUMINUM
WEIGHT	14 lbs./ 6.5 kg. total

NOTE: Specifications are subject to change without notice.

Model ETC 1224-7

Mechanical Drawing

- Drawing No. ETC 1224-7 Trailer Converter
- REV 2
- Scale 1:4



Model UTC 2412B

Electrical Specifications

DESIGN FEATURES:

- Wide Range Input Voltage
- High Efficiency Design
- Hi Ingress Rating, IP 676
- Low Voltage Cutout
- High Voltage Cutout
- Electronically Current Limited
- Thermally Protected
- Low No Load Power Consumption
- All Aluminum Anodized Housing
- 6 Point Mounting



INPUT 1



7 PIN SAE 560
ISO 1185 | 24V

INPUT 2



Not Available

OUTPUT



7 PIN SAE 560
12V

Input/Output Function Table for UTC 2412B							
Function	Color	(24 Volts)				(12 Volts)	Function
		INPUT			OUTPUT		
		ISO 1185			JAE 560		
		Pin #				Pin #	
Ground	White	1	→	X	1	White	Ground
Left Side - Tail, Marker, Clearance, License Lights	Black	2	→	X	2	Black	Clearance, ID, Lights
Left Turn Sig.	Yellow	3	→	X	3	Yellow	Left Turn Sig.
Normal Stop Lights	Red	4	→	X	4	Red	Normal Stop Lights
Right Turn Signal	Green	5	→	X	5	Green	Right Turn Signal
Right Side - Tail, Marker, Clearance, License Lights	Brown	6	→	X	6	Brown	Tail, Marker , License Lights
Trailer Aux Power	Blue	7	→	X	7	Blue	Constant Power

INPUT VOLTAGE RANGE	21-30 VDC (nominal) Will withstand up to 36V
INPUT CURRENT	10A max. per Circuit
OUTPUT VOLTAGE	13.6 +, - 0.3 V per circuit
OUTPUT CURRENT	15A per line (BRN, BLK, RED, BLUE) 10A per line (YEL, GRN)
OUTPUT REGULATION	0.2V over entire input voltage and load current range

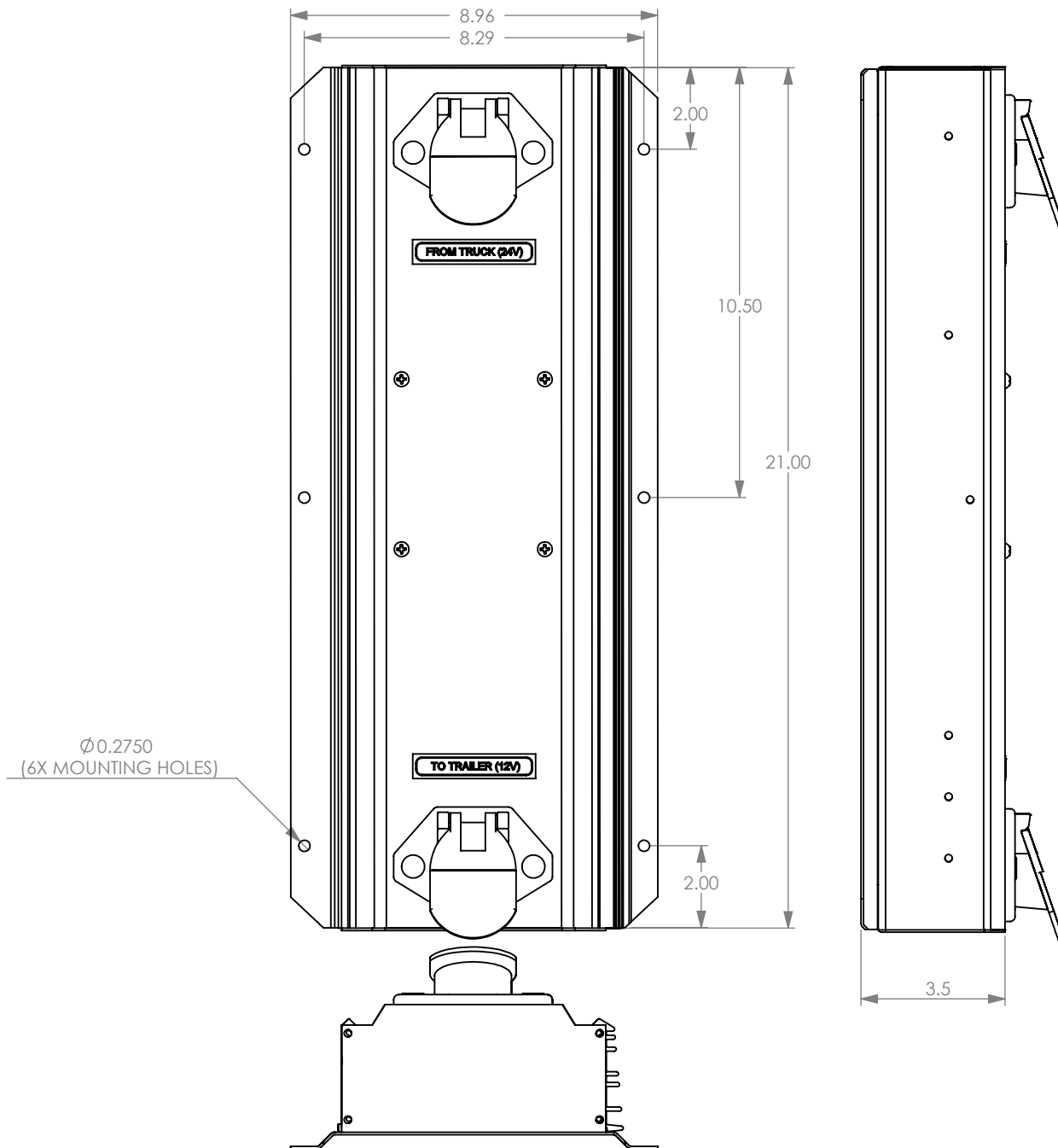
OPERATING TEMPERATURE	-40C to +60C
STORAGE TEMPERATURE	-60C to +125C
OVERLOAD PROTECTION	Electronic
EFFICIENCY	92% Typical
CONSTRUCTION	BLACK ANODIZED ALUMINUM
WEIGHT	14 lbs./ 6.5 kg. total

NOTE: Specifications are subject to change without notice.

Model UTC 2412B

Mechanical Drawing

- Drawing No. UTC 2412B Trailer Converter
- REV 2
- Scale 1:4



Model UTC 2412-7B

Electrical Specifications

DESIGN FEATURES:

- Wide Range Input Voltage
- High Efficiency Design
- Hi Ingress Rating, IP 676
- Low Voltage Cutout
- High Voltage Cutout
- Electronically Current Limited
- Thermally Protected
- Low No Load Power Consumption
- All Aluminum Anodized Housing
- 6 Point Mounting
- Optional SAE 560 or NATO MS 75021-1 Input
- Output via 12 ft pigtail



INPUT 1



12 PIN NATO
MS 75021-1 | 24V

INPUT 2



7 PIN SAE 560
ISO 1185 | 24V

OUTPUT



7 PIN JAE 560
12V

Input/Output Function Table for UTC 2412-7B

				OUTPUT P3 (Cable)							
INPUTS		wire (pin)	Function		OUT 1 White	OUT 1 Yellow	OUT 1 Green	OUT 1 Blue	OUT 1 Brown	OUT 1 Black	OUT 1 Red
J1 (Connector)					X						
12 Pin NATO 24 Volts	IN 1	A	Blackout Tail	Not Used							
	IN 1	B	Left Turn Sig.			X					
	IN 1	C	Convoy Lights (BO Tail)	Not Used							
	IN 1	D	Ground		X						
	IN 1	E	Tail Lights						X		X
	IN 1	F	Blackout Stop Lights	Not Used							
	IN 1	H	Blackout Tail	Not Used							
	IN 1	J	Right Turn Signal				X				
	IN 1	K	Trailer Aux Power					X			
	IN 1	L	Ground		X						
IN 1	M	Normal Stop Lights								X	
IN 1	N	Reverse Lights	Not Used								
J2 (Connector)					X						
7 Pin SAE 560 (ISO 1185) 24 Volts	IN 2	White	Ground		X						
	IN 2	Yellow	Left Turn Sig.			X					
	IN 2	Green	Right Turn Signal				X				
	IN 2	Blue	Trailer Aux Power					X			
	IN 2	Brown	Tail & License						X		
	IN 2	Black	Clearance & Side Marker							X	
	IN 2	Red	Brake								X

INPUT VOLTAGE RANGE	21-30 VDC (nominal) Will withstand up to 36V
INPUT CURRENT	10A max. per Circuit
OUTPUT VOLTAGE	13.6 +, - 0.3 V per circuit
OUTPUT CURRENT	15A per line (BRN, BLK, RED, BLUE) 10A per line (YEL, GRN)
OUTPUT REGULATION	0.2V over entire input voltage and load current range

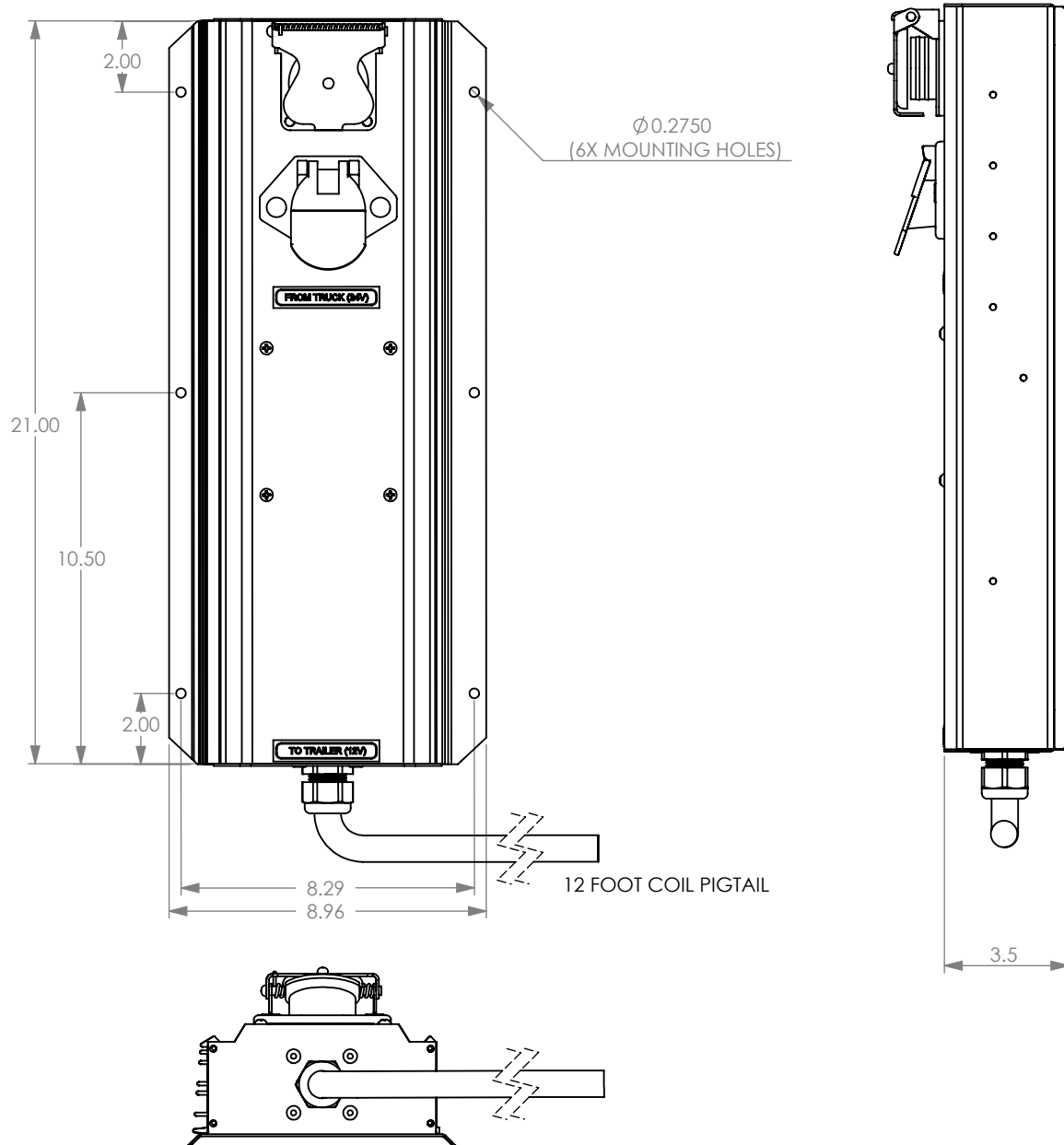
OPERATING TEMPERATURE	-40C to +60C
STORAGE TEMPERATURE	-60C to +125C
OVERLOAD PROTECTION	Electronic
EFFICIENCY	92% Typical
CONSTRUCTION	BLACK ANODIZED ALUMINUM
WEIGHT	25 lbs./ 11.5 kg. total (cable included)

NOTE: Specifications are subject to change without notice.

Model UTC 2412-7B

Mechanical Drawing

- Drawing No. UTC 2412-7B Trailer Converter
- REV 3
- Scale 1:5



Model UTC 2412-7H

Electrical Specifications

DESIGN FEATURES:

- Wide Range Input Voltage
- High Efficiency Design
- Hi Ingress Rating, IP 676
- Low Voltage Cutout
- High Voltage Cutout
- Electronically Current Limited
- Thermally Protected
- Low No Load Power Consumption
- All Aluminum Anodized Housing
- 6 Point Mounting



INPUT 1



12 PIN NATO
MS 75021-1 | 24V

INPUT 2



7 PIN SAE 560 | 12V

OUTPUT



4 Ft Hard Wire
7 Wires | 12V

Input/Output Function Table for UTC 2412-7H

Function	Color	(24 Volts) INPUT #1	(12 Volts) OUTPUT - 7 Wire (4/1.2) (ft/m)		(12 Volts) INPUT #2	Function
		MS 75021-1 (NATO)			SAE 560	
		Pin #	Wire Color	Function	Color (Pin #)	
Ground	White	D L	White	Ground	White 1	Ground
Normal Side Marker Lights Normal Tail Lights	Black	E	Black	Clearance, ID, Lights	Black 2	Clearance, ID, Lights
Normal Stop Lights	Red	M	Brown	Tail, Marker, License Lights	Brown 6	License Lights
			Red	Normal Stop Lights	Red 4	Normal Stop Lights
Right Turn Signal	Green	J	Green	Right Turn Signal	Green 5	Right Turn Signal
Constant Power	Blue	K	Blue	Constant Power	Blue 7	Constant Power
Left Turn Sig.	Yellow	B	Yellow	Left Turn Sig.	Yellow 3	Left Turn Sig.
NOT USED	X	A, C, F, H, N	NOT USED			

INPUT VOLTAGE RANGE	21 - 30 VDC (input #1)
	10.5 - 17 VDC (input #2)
INPUT CURRENT	10A max. per circuit (input #1)
	20A max. per circuit (input #2)
OUTPUT VOLTAGE	13.6 +, - 0.3 V per circuit
OUTPUT CURRENT	15A per line (BRN, BLK, RED, BLUE)
	10A per line (YEL, GRN)
OUTPUT REGULATION	0.2V over entire input voltage and load current range

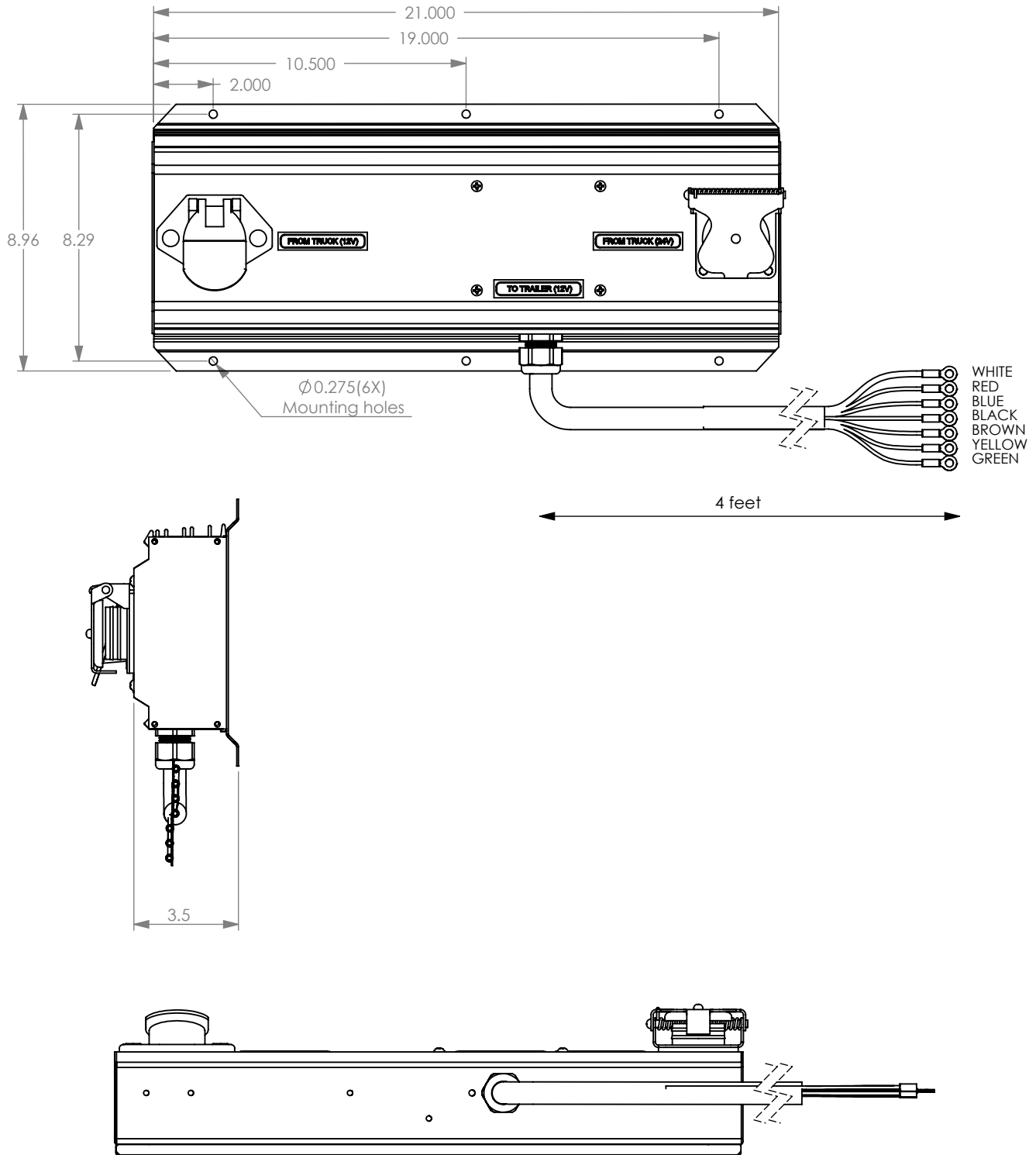
OPERATING TEMPERATURE	-40C to +60C
STORAGE TEMPERATURE	-60C to +125C
OVERLOAD PROTECTION	Electronic
EFFICIENCY	92% Typical
CONSTRUCTION	BLACK ANODIZED ALUMINUM
WEIGHT	14 lbs./ 6.5 kg. total

NOTE: Specifications are subject to change without notice.

Model UTC 2412-7H

Mechanical Drawing

- Drawing No. UTC 2412-7H Trailer Converter
- REV 2
- Scale 1:5



Model UTC 2412-8

Electrical Specifications

DESIGN FEATURES:

- Wide Range Input Voltage
- High Efficiency Design
- Hi Ingress Rating, IP 676
- Low Voltage Cutout
- High Voltage Cutout
- Electronically Current Limited
- Thermally Protected
- Low No Load Power Consumption
- All Aluminum Anodized Housing
- 6 Point Mounting



INPUT 1



12 PIN NATO
MS 75021-1 | 24V

INPUT 2



Not Available

OUTPUT



7 PIN SAE 560
ISO 1185 | 12V

Input/Output Function Table for UTC 2412-8

Input/Output Function Table for UTC 2412-8											
					OUTPUT J2 (Connector) SAE 560						
					7 Wire (12 Volts)						
INPUT					OUT 1	OUT 1	OUT 1	OUT 1	OUT 1	OUT 1	OUT 1
J1 (Connector)	wire (pin)	Function			White	Yellow	Green	Blue	Brown	Black	Red
MS 75021-1					X						
12 Pin NATO 24 Volts	IN 1	A	Blackout Tail	Not Used							
	IN 1	B	Left Turn Sig.			X					
	IN 1	C	Convoy Lights (BO Tail)	Not Used							
	IN 1	D	Ground		X						
	IN 1	E	Tail Lights						X		X
	IN 1	F	Blackout Stop Lights	Not Used							
	IN 1	H	Blackout Tail	Not Used							
	IN 1	J	Right Turn Signal				X				
	IN 1	K	Trailer Aux Power					X			
	IN 1	L	Ground		X						
IN 1	M	Normal Stop Lights								X	
IN 1	N	Reverse Lights	Not Used								

INPUT VOLTAGE RANGE	21-30 VDC (nominal) Will withstand up to 36V
INPUT CURRENT	10A max. per Circuit
OUTPUT VOLTAGE	13.6 +, - 0.3 V per circuit
OUTPUT CURRENT	15A per line (BRN, BLK, RED, BLUE) 10A per line (YEL, GRN)
OUTPUT REGULATION	0.2V over entire input voltage and load current range

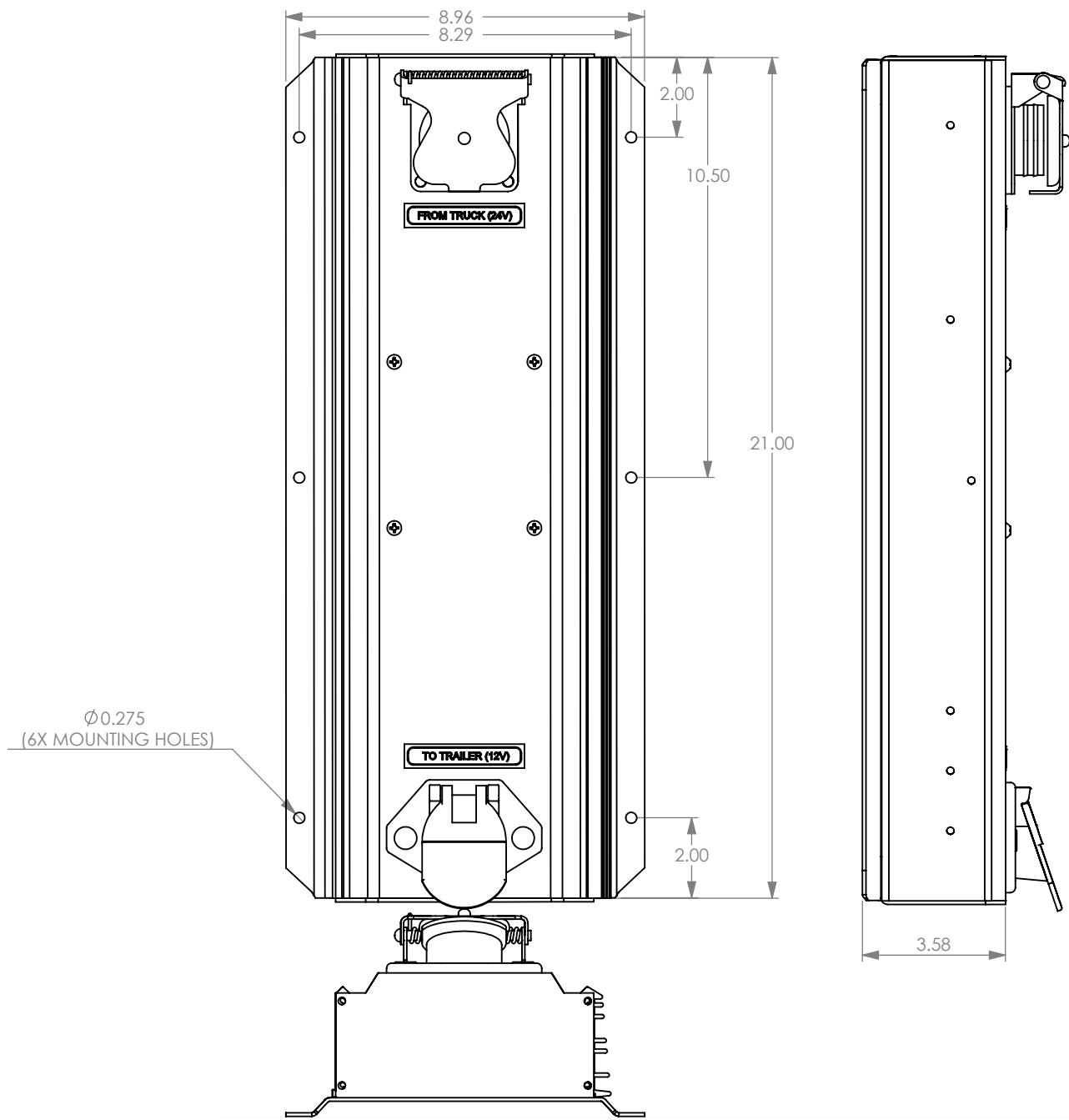
OPERATING TEMPERATURE	-40C to +60C
STORAGE TEMPERATURE	-60C to +125C
OVERLOAD PROTECTION	Electronic
EFFICIENCY	92% Typical
CONSTRUCTION	BLACK ANODIZED ALUMINUM
WEIGHT	14 lbs./ 6.5 kg. total

NOTE: Specifications are subject to change without notice.

Model UTC 2412-8

Mechanical Drawing

- Drawing No. UTC 2412-8 Trailer Converter
- REV 2
- Scale 1:4



Model UTC 2412-RVEB

Electrical Specifications

DESIGN FEATURES:

- Wide Range Input Voltage
- High Efficiency Design
- Hi Ingress Rating, IP 676
- Low Voltage Cutout
- High Voltage Cutout
- Electronically Current Limited
- Thermally Protected
- Low No Load Power Consumption
- All Aluminum Anodized Housing
- 6 Point Mounting



INPUT 1



12 PIN NATO
MS 75021-1 | 24V

INPUT 2



Not Available

OUTPUT



7 Way Blade Connector
12V

Input/Output Function Table for UTC 2412RVEB

		(24 Volts) INPUT - MS 75021-1 (NATO)		(12 Volts) OUTPUT - 7 Way RV Blade Connector		
Function		Pin #		Function	Color (Pin #)	
Ground		D L	→	Ground	White 1	
Normal Side Marker Lights Normal Tail Lights		E	→	Clearance, ID, Lights Tail, Marker, License Lights	Green 3	
Aux		M	→	Battery Charge	Black 4	
Right Turn Signal & Stop		J	→	Right Turn Signal & Stop	Brown 6	
Electric Brakes		K	→	Electric Brakes	Blue 2	Direct Pass Through from Truck
Left Turn Signal & Stop		B	→	Left Turn Signal & Stop	Red 5	
NOT USED	X	A, C, F, H, N				

INPUT VOLTAGE RANGE	21 VDC - 30 VDC
INPUT CURRENT	10A max. per circuit
OUTPUT VOLTAGE	13.6 +, - 0.3 V per circuit
OUTPUT CURRENT	15A per line (BRN, BLK, RED, BLUE) 10A per line (YEL, GRN)
OUTPUT REGULATION	0.2V over entire input voltage and load current range

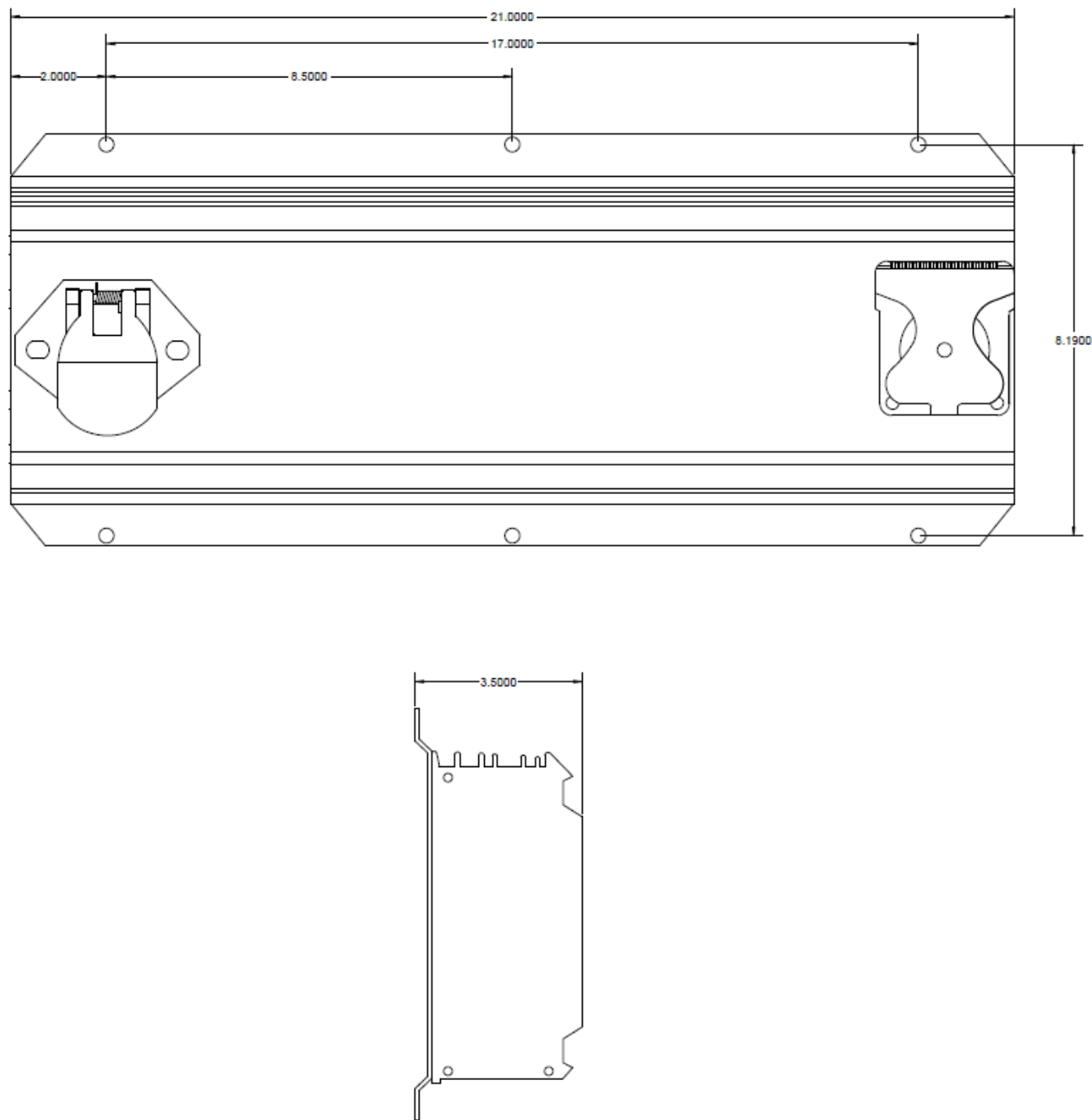
OPERATING TEMPERATURE STORAGE TEMPERATURE	-40C to +60C -60C to +125C
OVERLOAD PROTECTION	Electronic
EFFICIENCY	92% Typical
CONSTRUCTION	BLACK ANODIZED ALUMINUM
WEIGHT	14 lbs./ 6.5 kg. total

NOTE: Specifications are subject to change without notice.

Model UTC 2412-RVEB

Mechanical Drawing

• Drawing No. 17-2509 • REV A



Model UTC 2412GD

Electrical Specifications

DESIGN FEATURES:

- Wide Range Input Voltage
- High Efficiency Design
- Hi Ingress Rating, IP 676
- Low Voltage Cutout
- High Voltage Cutout
- Electronically Current Limited
- Thermally Protected
- Low No Load Power Consumption
- All Aluminum Anodized Housing
- 6 Point Mounting



INPUT 1



12 Ft Hard Wire
7 Wires | 24V

INPUT 2



Not Available

OUTPUT



12 Ft Hard Wire
7 Wires | 12V

Input/Output Function Table for UTC 2412GD

Function	Color	(24 Volts) INPUT Wire		(12 Volts) Output Wire	Color	Function
Ground	White	1	→	X 1	White	Ground
Left Side - Tail, Marker, Clearance, License Lights	Black	2	→	X 2	Black	Clearance, ID, Lights
Left Turn Sig.	Yellow	3	→	X 3	Yellow	Left Turn Sig.
Normal Stop Lights	Red	4	→	X 4	Red	Normal Stop Lights
Right Turn Signal	Green	5	→	X 5	Green	Right Turn Signal
Right Side - Tail, Marker, Clearance, License Lights	Brown	6	→	X 6	Brown	Tail, Marker, License Lights
Trailer Aux Power	Blue	7	→	X 7	Blue	Constant Power
		INPUT/OUTPUT 7 Wire Cable - 11/3.4 ft./m				

INPUT VOLTAGE RANGE	21-30 VDC (nominal) Will withstand up to 36V
INPUT CURRENT	10A max. per Circuit
OUTPUT VOLTAGE	13.6 +, - 0.3 V per circuit
OUTPUT CURRENT	15A per line (BRN, BLK, RED, BLUE) 10A per line (YEL, GRN)
OUTPUT REGULATION	0.2V over entire input voltage and load current range
INPUT/OUTPUT CONNECTIONS	Hard wired with ring terminal connections

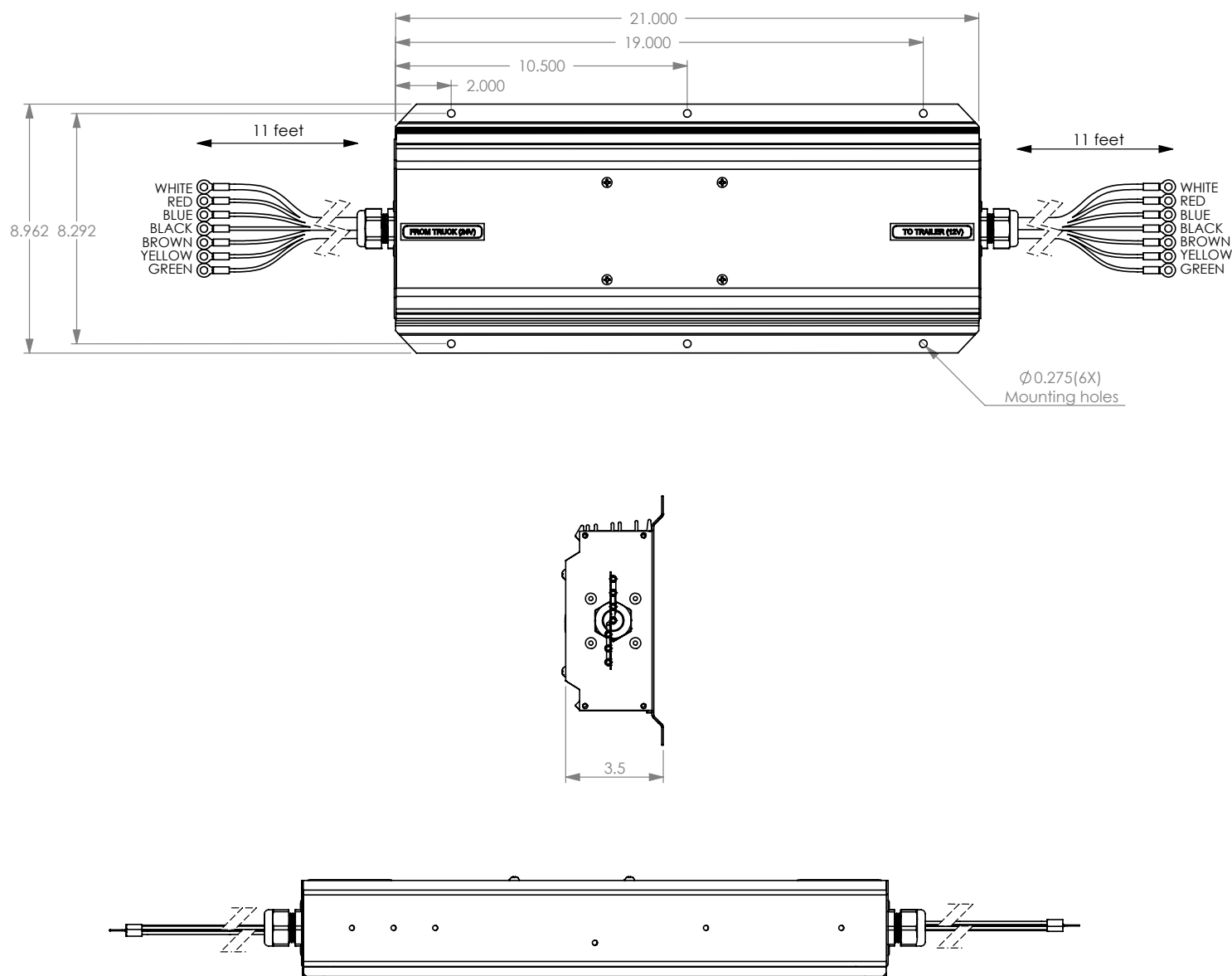
OPERATING TEMPERATURE	-40C to +60C
STORAGE TEMPERATURE	-60C to +125C
OVERLOAD PROTECTION	Electronic
EFFICIENCY	92% Typical
CONSTRUCTION	BLACK ANODIZED ALUMINUM
WEIGHT	14 lbs./ 6.5 kg. total

NOTE: Specifications are subject to change without notice.

Model UTC 2412GD

Mechanical Drawing

• Drawing No. UTC 2412GD Trailer Converter • REV 2



If you cannot find a model in this guide that suits your requirements, if you have questions, or would like engineering assistance, please contact us.



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