

CC2725AC48TZL Conduction-Cooled, Wide-Output Range Rectifier

200 – 240V_{AC} Input; 2725W – Capable; 48V_{DC} Default Output; RoHS Compliant



The OmniOn Power™ CC2725AC48TZL rectifier has an extremely wide programmable output voltage capability. Featuring high-density, fully enclosed, conduction-cooled packaging, it is designed for minimal space utilization and is highly expandable for future growth. This standard rectifier incorporates both RS485 and I²C communications buses that allow it to be used in a broad range of applications. Feature-set flexibility makes this rectifier an excellent choice for applications requiring operation over a wide output-voltage range and conduction cooling.

Applications

- Wide Band Power Amplifier
- Broadcast Systems
- Lasers
- Acoustic Noise Sensitive Systems
- LED Signage.

Features

- Compliant to RoHS Directive 2011/65/EU and amended Directive (EU) 2015/863 (-Z versions)
- Compliant to REACH Directive (EC) No 1907/2006
- Peak efficiency 95%
- Completely enclosed, conduction cooled
- Output constant power 2,725W from 58-50V_{DC}
- Output voltage programmable from 30V-58V_{DC}
- Remote ON/OFF control of the main output
- Comprehensive input, output and overtemperature protection
- Power factor correction (meets EN/IEC 61000-3-2 and EN 60555-2 requirements)
- Redundant, parallel operation with active load Sharing
- Redundant 5V Aux power
- Four front panel LED indicators
- Analog status signals
- Trim port to adjust V_o
- PMBus®-compliant I²C serial bus and RS485
- RoHS 6 compliant

Absolute Maximum Ratings

Stresses in excess of the absolute maximum ratings can cause permanent damage to the device. These are absolute stress ratings only, functional operation of the device is not implied at these or any other conditions in excess of those given in the operations sections of the data sheet. Exposure to absolute maximum ratings for extended periods can adversely affect the device reliability.

Parameter	Symbol	Min	Max	Unit
Input Voltage - Continuous Operation	V_{IN}	0	264	V_{AC}
Operating Case Temperature (sink side)	T_C	-40 ¹	40 ²	°C
Storage Temperature	T_{stg}	-40	85	°C

Electrical Specifications

Unless otherwise indicated, specifications apply overall operating input voltage, $V_O=48V_{DC}$, resistive load, and temperature conditions.

INPUT					
Parameter	Symbol	Min	Typ	Max	Unit
Startup Voltage High-line Operation	V_{IN}			185	V_{AC}
Operating Voltage Range High-line configuration		185	200-240	264	V_{AC}
Voltage Swell (no damage)		305			V_{AC}
Low Voltage Turn Off		175	10	185	V_{AC}
Turn On					V_{AC}
Hysteresis					V_{AC}
High Voltage Turn Off		265	10	275	V_{AC}
Turn On					V_{AC}
Hysteresis					V_{AC}
Frequency	F_{IN}	47		66	Hz
Operating Input Current (185 V_{AC} , 100% load)	I_{IN}			16	A_{AC}
Inrush Transient (220 V_{RMS} , $T_C=25^{\circ}C$, excluding X-Capacitor charging)			25	30	A_{PK}
Leakage Current (60Hz)				3.5	mA
Power Factor (50 - 100% load)	PF	0.96	0.98		
Efficiency, 240 V_{AC} , 48 V_{DC} , $T_C=25^{\circ}C$ 20% - 90% of FL	η	93	95		%
Holdup time (output allowed to decay down to 40 V_{DC}) w/full load	T		12		ms
Ride through (at 240 V_{AC} , $25^{\circ}C$, $V_O>40V_{DC}$ with full load)		1/2			cycle
Isolation (per EN62368-1) consult factory for testing to this requirement	V_{ISO}				
Input to Chassis & Signals		1500			V_{AC}
Input to Output		3000			V_{AC}

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¹ Designed to start and work at an ambient as low as -40°C, but meet operational limits until above -5°C.

² Refer to power curve (V_O vs I_O).

Electrical Specifications (continued)

MAIN OUTPUT					
Parameter	Symbol	Min	Typ	Max	Unit
Output Power @ high line input 200 – 240V _{AC} , V _O ≥50V _{DC} , T _C ≤40°C	P _{OUT}	2725			W _{DC}
Factory set default set point	V _{OUT}		48		V _{DC}
Overall regulation (load, temperature, aging) 0-T _C ≤40°C , Load >2.5A		-1		+1	%
Output Voltage Set Range		30		58	V _{DC}
Output Current ³ - T _C ≤40°C	I _{OUT}				
58V		1		47.0	A _{DC}
50V		1		54.5	A _{DC}
48V		1		54.5	A _{DC}
44V		1		54.5	A _{DC}
Current Share (> 50% FL)					
V _O > 42V _{DC}		-5		5	%FL
V _O < 42V _{DC}		-10		10	%FL
Output Ripple (20MHz bandwidth, load >1A)	V _{OUT}				
RMS (5Hz to 20MHz)				100	mV _{rms}
Peak-to-peak (5Hz to 20MHz)				500	mV _{p-p}
External Bulk Load Capacitance	C _{OUT}	0		5,000	μF
Turn on (monotonic turn-ON from 30 - 100% of V _{nom} above 5°C)	T		5 100 100		s ms ms %
Delay					
Rise Time – I ² C mode					
Rise Time - RS-485 mode					
Output Overshoot	V _{OUT}			2	
Load Step Response ⁴ (I start from 0A), V _O =48V	I _{OUT} V _{OUT} T		2.0 2	90	%FL V _{DC} ms
ΔI					
ΔV					
Response Time ⁵					
Overvoltage	V _{OUT}	>60		<65	V _{DC}
200ms delayed shutdown					
Immediate shutdown					
Latched shutdown	Three restart attempts are implemented with a 1-minutes window prior a latched shutdown.				
Overtemperature warning (prior to commencement of shutdown)	T		5 20 10		°C
Shutdown (below the max device rating being protected)					
Restart attempts Hysteresis (below shutdown level)					
Isolation Output to Chassis	V _{ISO}	100			V _{DC}

³ Refer to power boundary curves for details.

⁴ Allow to add ext C_O bank.

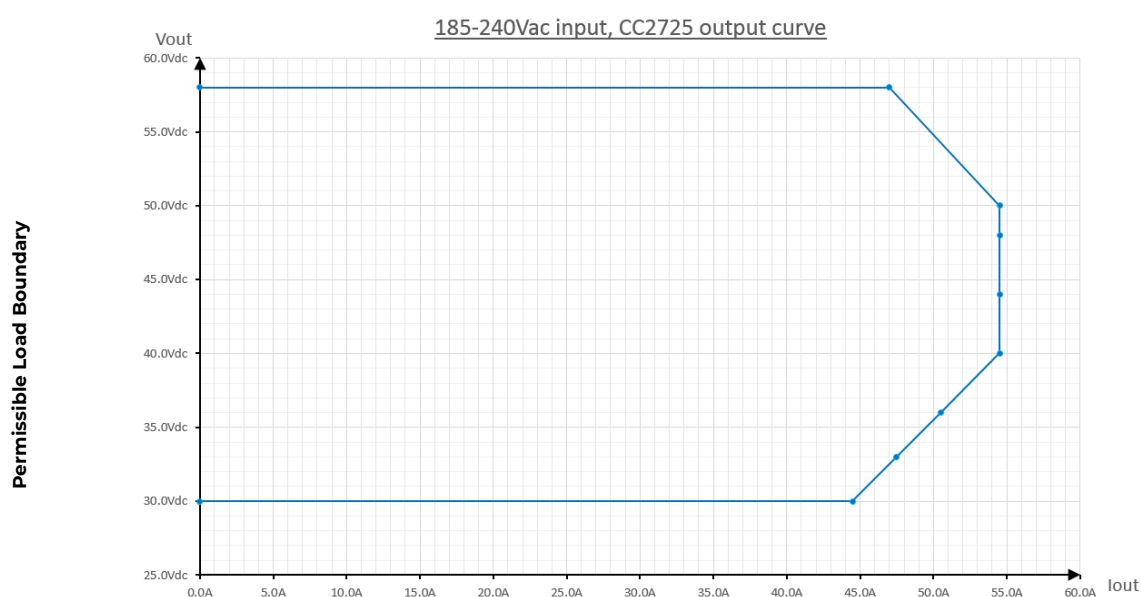
⁵ V_O undershoot around 2V, may take longer time to recover.

Electrical Specifications (continued)

MAIN OUTPUT (continued)

Parameter	Symbol	Min	Typ	Max	Unit
Power limit down to 50V _{DC}	P _{OUT}	2725			W

1. Dynamic Current limit threshold varies corresponding V_o set point and V_{IN}
2. The overload current limit threshold is set at least > 1% above the load envelope shown here
3. Overcurrent events that exceed the envelope by 2% will hiccup continuously at a frequency of approximately once every 24 seconds
4. Dynamic output UV protection V_{o_set} - 2V is introduced when V_{o_set} is <42V
5. Fixed output UV protection 36V when V_{o_set} >42V



185-240V_{AC} input

V _o (V _{DC})	30	33	36	40	44	48	50	58
I _o (A)	44.5	47.5	50.5	54.5	54.5	54.5	54.5	47

Define P_o curve at case temp 40°C. Ambient temp is less than 30°C.

Contract terms are for supporting all loads inside the load map. The customer will develop a control interface which maintains the operating voltage and current so as to not exceed the load map.

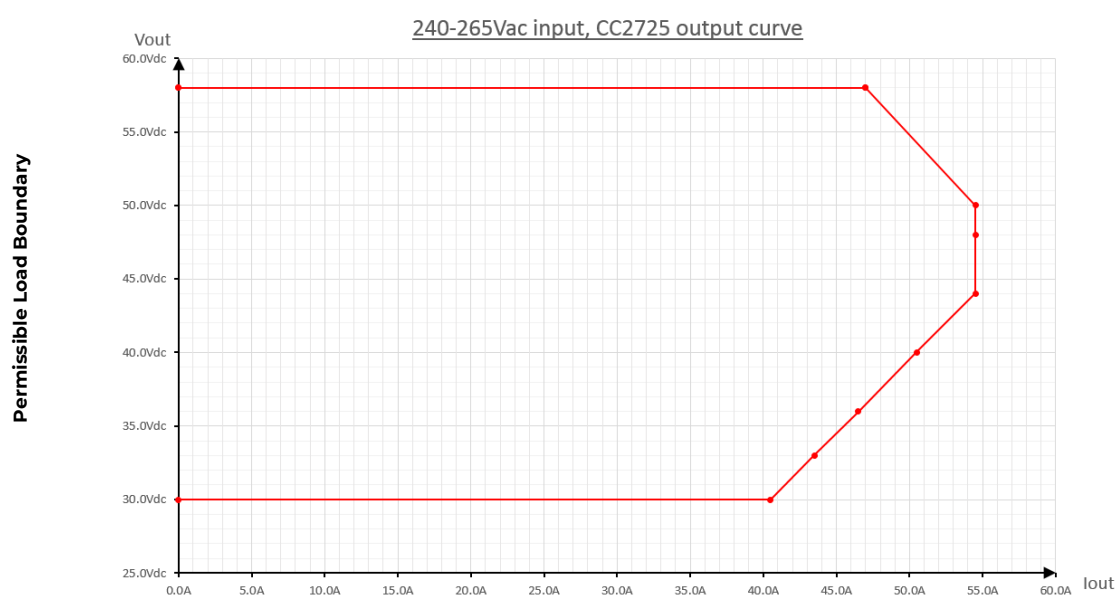
System power up: Upon insertion, the rectifier will delay an overload shutdown for 20 seconds.

Electrical Specifications (continued)

MAIN OUTPUT (continued)

Parameter	Symbol	Min	Typ	Max	Unit
Power limit down to 50V _{DC}	P _{OUT}	2725			W

1. Dynamic Current limit threshold varies corresponding V_o set point and V_{IN}
2. The overload current limit threshold is set at least > 1% above the load envelope shown here
3. Overcurrent events that exceed the envelope by 2% will hiccup continuously at a frequency of approximately once every 24 seconds
4. Dynamic output UV protection V_{o_set} - 2V is introduced when V_{o_set} is <42V
5. Fixed output UV protection 36V when V_{o_set} >42V



240-265V_{AC} input

V _o (V _{DC})	30	33	36	40	44	48	50	58
I _o (A)	40.5	43.5	46.5	50.5	54.5	54.5	54.5	47

Define Po curve at case temp 40°C. Ambient temp is less than 30°C.

Contract terms are for supporting all loads inside the load map. The customer will develop a control interface which maintains the operating voltage and current so as to not exceed the load map.

System power up: Upon insertion, the rectifier will delay an overload shutdown for 20 seconds.

Electrical Specifications (continued)

5V _{DC} Auxiliary Output (return is LGND)					
Parameter	Symbol	Min	Typ	Max	Unit
Output Voltage Setpoint	V _{SB}		5		V _{DC}
Overall Regulation		-10		+5	%
Output Current	I _{SB}	0		0.2	A
Ripple and Noise (20mHz bandwidth)	V _{SB}		55	200	mV _{p-p}
Over-voltage Clamp	V _{SB}			7	V _{DC}
Overcurrent Limit	I _{SB}	400		670	%FL
Isolation LGND to Chassis	V _{ISO}	100			V _{DC}
The 5V _{DC} should be ON before availability of the main output and should turn OFF only if insufficient input voltage exists to provide reliable 5V _{DC} power. The PG# signal should have indicated a warning that main output has turned OFF and the main output should be OFF way before interruption of the 5V _{DC} output.					

General Specifications

Parameter	Min	Typ	Max	Units	Notes
Reliability		526,552		Hours	Full load, 25°C, MTBF per SR232 Reliability protection for electronic equipment, issue 2 method I, case III
Service Life		10		Years	At 80% load and 25°C cold plate
Unpacked Weight		2.1		Kg	
Packed Weight		2.8		Kg	

Signal Specifications

Unless otherwise indicated, specifications apply to overall operating input voltage, resistive load, and temperature conditions. Signals are referenced to LGND unless noted otherwise. Fault, PG, OTW and Alert need to be pulled HI through external pull-up resistors.

Parameter	Symbol	Min	Typ	Max	Unit
Enable (Analog or I ² C mode)					
Main output OFF	V _{OUT}	2.4	-	5	V _{DC}
Main output ON (should be connected to LGND)	V _{OUT}	0	-	0.5	V _{DC}
Enable RS485 (RS485 mode) Referenced to V _{OUT} (-)					
Main output OFF	V _{OUT}	2.4	-	5	V _{DC}
Main output ON (should be connected to V _{OUT} (-))	V _{OUT}	0	-	0.4	V _{DC}
Margining (by adjusting Margining see "Voltage programming" section)					
Programmed output voltage range	V _{OUT}	30		58	V _{DC}
Linear voltage control range	V _{control}	>0.1		≤3.0	V _{DC}
Voltage adjustment resolution (8-bit A/D)	V _{control}		125		mV _{DC}
Output set to 48V _{DC}	V _{control}	3.1		3.3	V _{DC}
Output set to 30V _{DC}	V _{control}	0		0.1	V _{DC}
Over Temperature Warning (OTW)					
Logic HI (temperature normal)	V	2.4	-	12	V _{DC}
Sink current [note: open collector output FET]	I	-	-	5	mA
Logic LO (temperature is too high)	V	0	-	0.4	V _{DC}
Fault					
Logic HI (temperature normal)	V	2.4	-	12	V _{DC}
Sink current [note: open collector output FET]	I	-	-	5	mA
Logic LO (Fault is present)	V	0	-	0.4	V _{DC}
Power Good Warning (PG)					
Logic HI (temperature normal)	V	2.4	-	12	V _{DC}
Sink current [note: open collector output FET]	I	-	-	5	mA
Logic LO (Fault is present)	V	0	-	0.4	V _{DC}

Environmental Specifications

Parameter	Min	Typ	Max	Units	Notes
Operating Case Temperature	-40 ⁶		40	°C	Measured at the center of the cooling surface. Refer to detailed power boundary curves.
Storage Temperature	-40		85	°C	
Operating Altitude			5000/16,400	m/ ft	
Non-operating Altitude			8200/27,000	m/ ft	
Over Temperature Protection		115		°C	Shutdown/restart (internally measured points)
Humidity					
Operating	5		95	%	Relative humidity, non-condensing
Storage	5		95	%	
Shock and Vibration acceleration			2.4	Grms	

EMC

Parameter	Measurement	Standard	Level	Test
	Conducted emissions	EN55032	Class A (With 3dB margin)	0.15 - 30MHz
AC Input	Radiated emissions ⁷	EN55032	Class A (With 3dB margin)	30 - 1000MHz
	Line harmonics	EN610000-3-2 THD	Table 1 5%	0 - 2kHz 230 V _{AC} , full load, 25°C
Parameter	Measurement	Standard	Criteria ⁸	Test
AC Input Immunity	Line sags and interruptions	EN610000-4-11	B	-30%, 500ms
			B	-60%, 200ms
			B	-100%, 5sec
		sag must be higher than 80V _{rms} , V _o >40V _{DC} with full load	A	25% line sag for 2 seconds 0.5 cycle interruption
	Lightning surge	EN610000-4-5, Level 4, 1.2/50μs - error free	A	4kV, common mode
			A	2kV, differential mode
	Fast transients	EN610000-4-4, Level 3	B	5/50ns, 2kV (common mode)
Enclosure Immunity	ESD	EN610000-4-2, Level 4	B	8kV contact, 15kV air

⁶ Designed to start and work at an ambient as low as -40°C, but meet operational limits until above -5°C.

⁷ Test with external filter.

⁸ Criteria A: The product must maintain performance within specification limits.

Criteria B: Temporary degradation which is self-recoverable.

Criteria C: Temporary degradation which requires operator intervention.

Control and Status

The Rectifier provides three means for monitor control: analog, PMBus, or the OmniOn Galaxy-based RS485 protocol. Details of analog control are provided in this data sheet. OmniOn Power will provide separate application notes on the Galaxy RS485 or PMBus (I²C) based protocol for users to interface to the rectifier. Contact your local OmniOn representative for details. Factory default setting is Analog & I²C mode.

Signal Reference

Unless otherwise noted, all signals are referenced to LGND ("Logic Ground"). See the Signal Definitions Table at the end of this document for further description of all the signals.

LGND is isolated from the main output of the rectifier for PMBus communications. Communications and the 5V standby output are not connected to main power return (V_{OUT} (-)) and can be tied to the system digital ground point selected by the user. (Note that RS485 communications is referenced to V_{OUT} (-), main power return of the rectifier).

LGND is capacitively coupled to Earth Ground inside the rectifier where Earth Ground is also wired to the metal case). The maximum voltage differential between LGND and Earth Ground should be less than 100V_{DC}.

Delayed Overcurrent Shutdown During Startup

Rectifiers are programmed to stay in a constant current state for up to 20 seconds during power up. This delay has been introduced to permit the orderly application of input power to a subset of paralleled front-ends during power up. If the overload persists beyond the 20 second delay, rectifier will shut down and restart.

Auto Restart

Auto-restart is the default configuration for over-current and over-temperature shutdowns.

An overvoltage shutdown is followed by three attempted restarts, each restart delayed 1 second, within a 1 minute window. If within the 1 minute window three attempted restarts failed, the unit will latch OFF. If within the 1 minute less than 3 shutdowns occurred then the count for latch OFF resets and the 1 minute window starts all over again.

To restart after a latch off either of five restart mechanisms are available.

- 1 The hardware pin ON/OFF or DIP switch on rear side may be cycled OFF and then ON.
- 2 Turn OFF and then turn ON AC power to the unit.
- 3 The unit may be commanded to restart via I²C through the Operation command by cycling the output OFF followed by ON.

Control Signals

There are two DIP switches and a potentiometer on rear side of the rectifier, enabling operation without digital control signals. "Output" switch #1 enables the main output; "trim-pot" switch #2 (closest to the trim pot) enables adjustment of the output voltage by the trim pot. Default settings are output ON and trim-pot OFF. A separated signal connector includes all the control and status signals.

Protocol

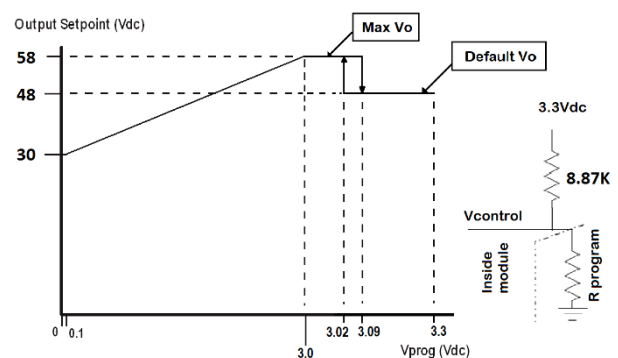
Establishes the communications mode of the rectifier. Default is open for analog/I²C (PMBus) mode. For RS485 mode, connect a 10kΩ pull-down resistor to Vout(-). In RS485 mode, the DIP switches & trim pot are ignored, and some signals are ignored as noted.

Margining

In analog/I²C mode, an external analog signal may be used to adjust VOUT through the Margin pin when the trim-pot DIP switch is OFF. In this state if no margining signal is applied, the output voltage is the factory default setpoint.

The Margin pin is connected to 3.3Vdc inside the Rectifier via a 8.87kΩ resistor. Connecting a resistor or voltage source externally can change the set-point linearly as shown below.

In RS485 mode, the Margin signal is ignored.



Output Voltage Setpoint

The output-voltage setpoint may be adjusted by analog trimming as above, or using standard PMBus commands, or using OmniOn's proprietary RS485 communications. For details about how to change output voltage setpoint using RS485, please contact your local representative.

Control Signals (continued)

ON/OFF

In analog/I²C mode, the output DIP switch (#1) on the rear panel of the rectifier provides manual control of the main power output; the factory default is ON.

When this main-output DIP switch is OFF, the Enable# pin from the signal interface can be used to control main power on/off. This pin must be pulled low to turn ON the rectifier.

For PMBus control of ON/OFF, either the output DIP switch or Enable# must be set to ON.

In RS485 mode, the Output switch & Enable pin are ignored.

Enable_RS485#

This pin is used as main power on/off in RS485 mode. For RS485 control of on/off, Enable_RS485# must be set to ON (pulled low). In analog/I²C mode, this pin is ignored.

Status Signals

Power Good (PG)

A TTL-compatible status signal representing whether main output is delivered. This signal needs to be pulled HI externally through a resistor.

This signal is HI when the main output is being delivered and goes LO when main power is shutdown. This signal deliver duty in case output current limit condition.

Fault#

A TTL-compatible status signal representing whether an internal Fault occurred. This signal needs to be pulled HI externally through a resistor. (# after the signal name indicates negative logic, i.e., low indicates a fault.)

This signal goes LO for any failure that requires rectifier replacement. These faults may be due to:

- Over-temperature shutdown
- Over-voltage shutdown
- Internal Rectifier Fault

In RS485 mode this pin is ignored.

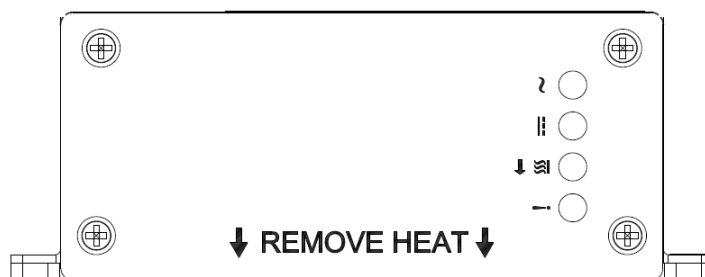
Over Temp Warning (OTW#)

A TTL-compatible status signal representing whether an over temperature exists. This signal needs to be pulled HI externally through a resistor.

If an over temperature should occur, this signal would pull LO for approximately 10 seconds prior to shutting down the rectifier. In its default configuration, the unit would restart if internal temperatures recover within normal operational levels. At that time the signal reverts back to its open collector (HI) state.

In RS485 mode, this pin is ignored.

Front Panel LEDs



Symbol	Analog Mode	I ² C Mode	RS485 Mode
~	←	ON: Input ok Blinking: Input out of limits	→
	←	ON: Output ok Blinking: Overload	→
	ON: Over-temperature Warning	ON: Over-temperature Warning Blinking: Service	ON: Over-temperature Warning
!	← ON: Fault	→	ON: Fault Blinking: Not communicating

*Arrow next to "hot" symbol points to the cooling side, where heat should be removed.

Condition	Rectifier LED State				Monitoring Signals		
	AC OK Green	DC OK Green	Service Amber	Fault Red	Fault	OTW	PG
OK	1	1	0	0	HI	HI	HI
Thermal Alarm (5°C before shutdown)	1	1	1	0	HI	LO	HI
Thermal Shutdown	1	0	1	1	LO	LO	LO
AC Present But Not Within Limits	Blinks	0	0	0	HI	HI	LO
AC Not Present ¹	0	0	0	0	HI	HI	LO
Boost Stage Failure	1	0	0	1	LO	HI	LO
Overvoltage Latched Shutdown	1	0	0	1	LO	HI	LO
Over Current	1	Blinks	0	0	HI	HI	Pulsing ²
Non-catastrophic Internal Failure ³	1	1	0	1	LO	HI	HI
Standby Remote ⁴	1	0	0	0	HI	HI	LO
Service Request (I ² C Mode)	1	1	Blinks	0	HI	HI	HI
Communications Fault (RS485 Mode)	1	1	0	Blinks	N/A	N/A	High

¹ This signal is correct if another powered units provides 5VA and 8V_INT as back-bias.

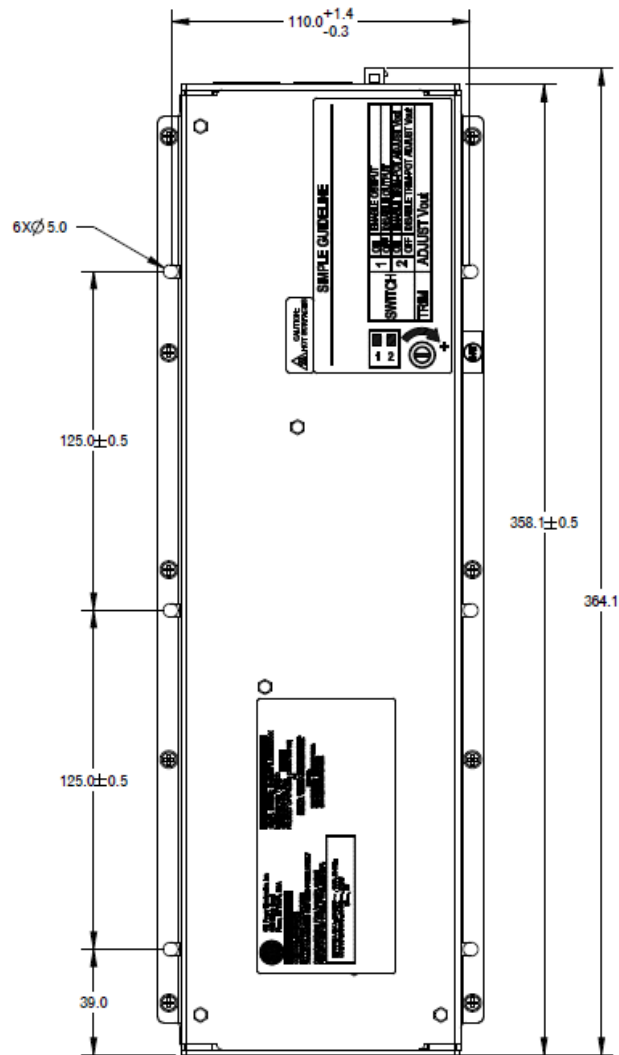
² Pulsing at a duty cycle of 1ms as long as the unit is in overload.

³ Any detectable fault condition that does not cause a shutting down. For example, ORing FET failure, boost section out of regulation, etc.

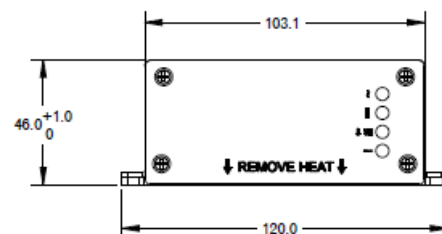
⁴ Remote on/off through ENABLE pin or PMBus command in I²C mode. Remote on/off through ENABLE_RS485# pin or GP command in RS485 mode.

Mechanical Outline

All dimensions are in mm

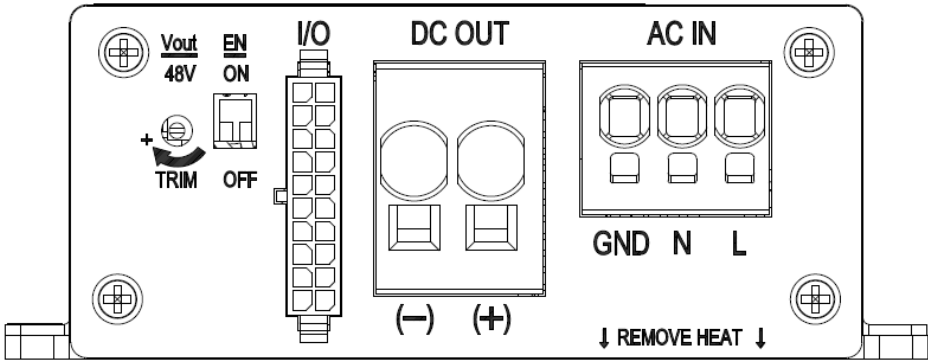


TOP VIEW



FRONT VIEW

Wiring Interface



Rear View

AC Input Wiring Diagram



Whether it's a push-in spring or a leg spring, the spring principle makes for quick, tool-free conductor connection. Simply insert the solid conductors and conductors with ferrules into the push-in terminal point and release using a screwdriver. When connecting and releasing finely stranded conductors without ferrules, the terminal point can also be opened using a screwdriver.

Input, Output Terminal Blocks and Signal Connector Information

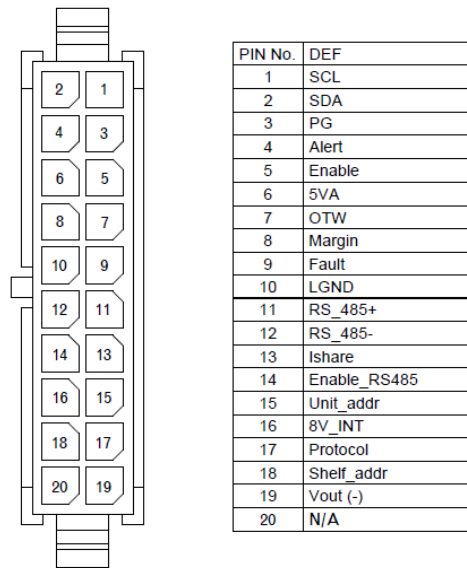
TB/Connector	Vendor P/N	Rated Current	Rated Insulation Voltage	Pitch	Pos.
AC Input	1719202 (Phoenix)	41A	1000V	7.5mm	3
DC Output	1735781 (Phoenix)	76A	1000V	10.0mm	2
Signal I/O	430202000 (Molex)	5A (UL)	350V (UL)	3.0mm	20

Wire Information for Terminal Blocks

TB Connection Data	AC Input TB	DC Output TB
Conductor cross section solid	0.2 ~ 10mm ²	0.75 ~ 16mm ²
Conductor cross section flexible	0.2 ~ 6mm ²	0.75 ~ 16mm ²
Conductor cross section with ferrule without plastic sleeve	0.25 ~ 6mm ²	0.75 ~ 16mm ²
Conductor cross section with ferrule with plastic sleeve	0.25 ~ 4mm ²	0.75 ~ 10mm ²
Conductor cross section AWG	24-8 AWG	24-4 AWG
Nominal current IN	41A	76A
Stripping length	15mm	18mm

Note: Recommended to use ferrule with correct stripping length for input and output wires.

Signal I/O Pin Definition



Pins Table

Signal Definitions (# after the signal name indicates negative logic)

I/O	Function	Type	Description
SCL	I ² C Line	Input	I ² C 0 channel
SDA	I ² C Line	Input	I ² C 0 channel
PG	Power Good Warning	Output	Open drain FET; normal is High, Changes to Low if an imminent loss of the main output may occur. Ref: LGND
Alert	I ² C Interrupt	Output	I ² C 0 channel
Enable#	Output control	Input	If shorted to LGND, main output is ON in Analog/I ² C mode. Active when ON/OFF DIP switch is OFF. Ref: LGND
5VA	Standby power	Output	5V provided for external use. Ref: LGND
OTW#	Over-Temp Warning	Output	Open drain FET; normally Hi, changes to low approximately 5°C prior to thermal shutdown. Ref: LGND
Margin	Margining	Input	Allows changing of output voltage through an analog voltage input or via resistor divider. Active when Trim-pot DIP switch is OFF. Ref: LGND
Fault#	Rectifier Fault	Output	An open drain FET; normally Hi, changes to Low internal fault. Ref: LGND
LGND	Logic Ground	Bi-direct	Return for all signals unless V _{OUT} (-) is indicated in description
RS_485+	RS485 Line	Bi-direct	RS485 line + Ref V _{OUT} (-)
RS_485-	RS485 Line	Bi-direct	RS485 line - Ref V _{OUT} (-)
Ishare	Current Share	Bi-direct	A single wire active-current share interconnect between Rectifiers. Ref: V _{OUT} (-)
Enable_RS485#	Output control	Input	ON/OFF in RS485 mode; ON when pulled low to V _{OUT} (-)
Unit_addr	Rectifier address	Input	I ² C/RS485 address setting. Ref V _{OUT} (-)
8V_INT	Back bias	Bi-direct	Used to back bias controller of a non-operating rectifier from operating rectifiers. Ref: V _{OUT} (-)
Protocol	Protocol select	Input	Selects communications mode No connect for Analog/I ² C (PMBus) mode; 10KΩ for RS485. Ref: V _{OUT} (-)
Shelf_addr	Shelf Address	Input	I ² C/RS485 address setting. Ref: V _{OUT} (-)
V _{OUT} (-)	Reference	Bi-direct	Ref for RS485+/-, Ishare, Enable_RS485#, Unit/Shelf addr, Protocol, 8V INT. DO NOT connect this signal to main output return V _{OUT} (-)

All hardware alarm signals (Fault#, PG, OTW#) are open drain FETs. These signals need to be pulled HI to either 3.3V or 5V. Maximum sink current 5mA. An active LO signal is < 0.4V_{DC}. All signals are referenced to LGND unless otherwise stated.

When connecting main outputs in series to extend Vo, all signals ref. LGND from different units could be tied together. Other signals refer to Vout(-) from different units cannot be tied together, otherwise may cause internal circuits damage due to different VOUT(-) level.

DIP Switch and V_o Adjustment

SIMPLE GUIDELINE

1

2

SWITCH

TRIM

1	ON	ENABLE OUTPUT
1	OFF	DISABLE OUTPUT
2	ON	ENABLE TRIM-POT ADJUST V _{out}
2	OFF	DISABLE TRIM-POT ADJUST V _{out}
ADJUST V _{out}		

EN

ON

OFF

V_{out}

48V

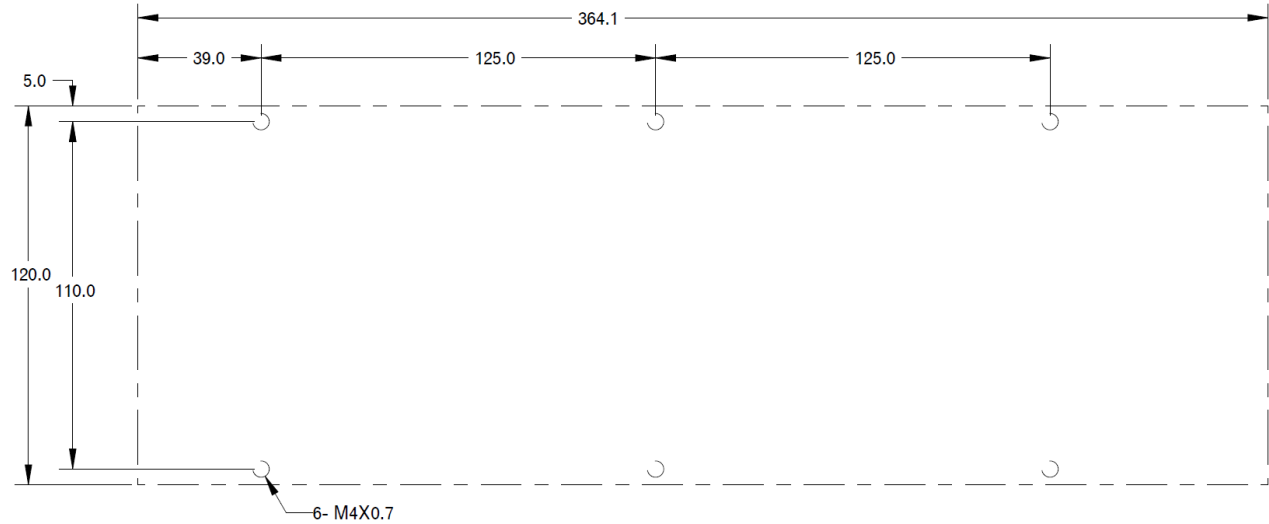
TRIM

Guide label on top

Rear View

Mounting Dimensions

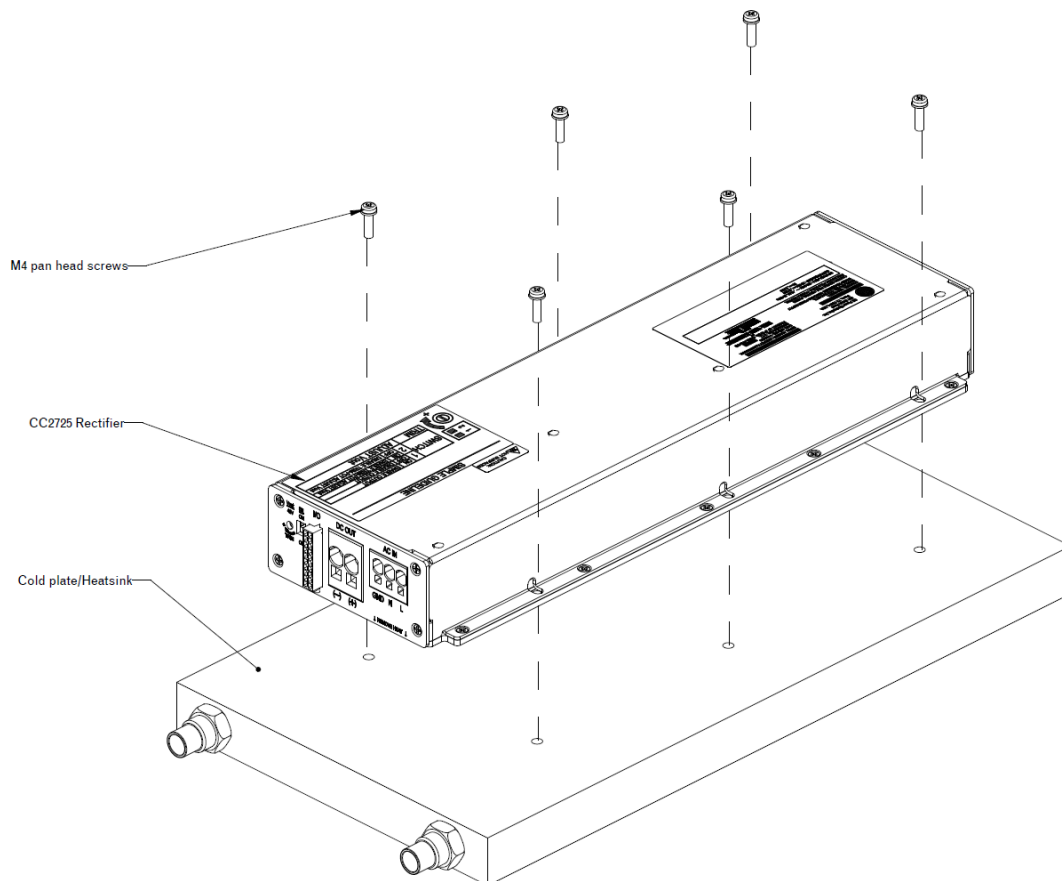
All dimensions are in mm



Mounting Diagram

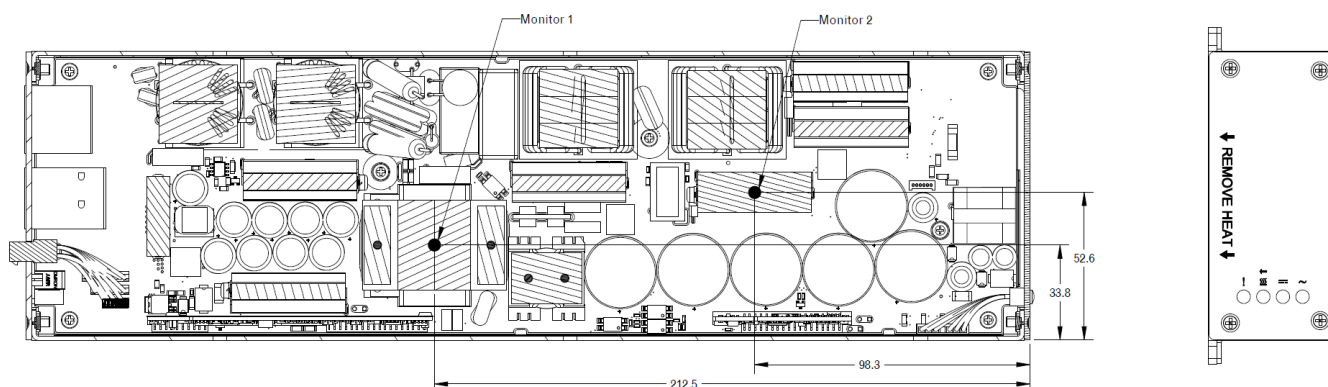
Install the module to cold plate/heatsink with 6 M4 pan head screws as shown, the torque to be 1.5Nm.

Apply gap filler, Laird T-putty 504, or equivalent material (thermal conductivity better than 1.8 W/mK), between module and cold plate/heatsink. Amount of Gap filler is around 20.9 cubic cm, thickness is around 0.5mm.



Case Temperature Monitoring Location

Below diagram indicates the hot spots of CC2725AC48TZL rectifier, assumed to be at the same temperature as the case in these locations. Over-temperature protection will be triggered if one of the hot spots exceeds its temperature limit.



Ordering Information

Please contact your OmniOn Sales Representative for pricing, availability and optional features.

Item	Description	Ordering Code
CC2725AC48TZL	Conduction cooled, 30~58V _{DC} output, shorter length rectifier, 2725W	1600190297A
Cable assembly	Wire set for signal I/O, 0.5m length	8600238857P

Change History (excludes grammar and clarifications)

Revision	Date	Description of the change
2.3	11/19/2021	Updated as per template
2.4	07/02/2023	Missed content added on page no 11
2.5	11/02/2023	Updated as per OmniOn template
2.6	08/19/2026	Numerous small corrections throughout; clarified ON/OFF and Vout control
2.7	8/27/2026	Corrected ON/OFF control (p.9)

OmniOn Power Inc

601 Shiloh Rd.
Plano, TX USA

omnionpower.com

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