



FEATURES

- OCP compliant
- 10U height
- 537(W) x 680(L) x 45(H) mm
- 15kW total output power (N+1)¹
- Accommodates up to six PSU modules and one RMU
- 12.3V output
- Hot swappable
- Equipped with two C13 2.5A/ AC Outlets, Except for -H model
- N+1 Redundancy
- Supports external BBU (Murata Battery Backup System), -G model only

¹Includes power drawn from AC outlets

PRODUCT OVERVIEW

MWOCES-211 Series is an 15kW, 21" 10U, OCP compliant power shelf that provides a delivery system for up to six 74mm 10U [Power Supplies \(PSU\)](#), and one [Remote Management Unit \(RMU\)](#) intended for 12V Power Distribution architectures. Two AC input connectors are provided supporting either three-phase four wire delta (without Neutral) or three- Phase five wire wye (with Neutral) configurations for increased flexibility. Each of the two inputs power three PSU slots. DC output is provided by pluggable bus bars and two C13 AC outlets are provided for peripheral equipment power.

ORDERING GUIDE

Part Number ²	Input Configuration	DC Output Busbar Configuration
MWOCES-211-A ³	Three-phase four wire Delta	Multi-link busbar
MWOCES-211-B	Three-phase five wire Wye	Three (3) busbar
MWOCES-211-E ³	Three-phase four wire Delta	Centre busbar
MWOCES-211-F	Three-phase five wire Wye	Centre busbar
MWOCES-211-G	Three-phase five wire Wye & external BBU	Multi-link busbar
MWOCES-211-H ⁴	HVDC	Centre busbar

² Shelf does not include PSUs and RMU, (ordered separately. Refer to product datasheet for details)

³ Contact Murata for availability

⁴ Future planned product, contact Murata for availability

INPUT CHARACTERISTICS

Parameter	Conditions	Min.	Nom.	Max.	Units
Input Voltage	MWOCES-211-A/E, 3-phase delta	180	200-240	264	Vac
Operating Range	MWOCES-211-B/F, 3-phase wye (with neutral)	312	346-415	457	
Frequency		47	50/60	63	Hz
Input Current	200-240VAC; each input, per line Three-phase five wire Wye (Includes 2.5A convenience outlet current)			19.7	A

OUTPUT CHARACTERISTICS

Output Voltage	Parameter	Conditions	Min.	Typ.	Max.	Units
12.3Vdc	Output Power	With six (6) PSUs	0		15,000	W
		With five (5) PSUs	0		15,000	
		With four (4) PSUs	0		12,000	
		With three (3) PSUs	0		9,000	
		With two (2) PSUs	0		6,000	
		With one (1) PSU	0		3,000	
	Output Current	With six (6) PSUs	0		1,220	A
		With five (5) PSUs	0		1,220	
		With four (4) PSUs	0		976	
		With three (3) PSUs	0		732	
		With two (2) PSUs	0		488	
		With one (1) PSU	0		244	
	Holdup Time	With six (6) PSUs [5+1]	14.4			ms
		With six (6) PSUs [3+3]	24			
		With five (5) PSUs [4+1]	15			
		With four (4) PSUs [3+1]	16			
		With four (4) PSUs [2+2]	24			
		With three (3) PSUs [2+1]	18			
		With two (2) PSUs [1+1]	24			
		With one (1) PSU	12			



For full details go to
www.murata-ps.com/rohs



Certificate and Test
Report



ENVIRONMENTAL CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.	Units
Storage temperature range	Non-operating	-40		70	°C
Operating temperature range	Altitude < 3,000m	0		40	
Storage humidity	Non-condensing	10		90	%
Operating humidity	Non-condensing	10		85	
MTBF	Per Telcordia SR-332 M1C1 @ 40°C	300k			Hrs
Shock	30G non-operating				
Vibration	Operating, random vibration, 5-500Hz 1.11G				
Safety approval	c-UL-us (CSA 60950-1-07 / UL 60950-1 second edition) RoHs				
Weight (Typical)	Shelf Only, without PSUs and RMU		11.6		Kg

ISOLATION CHARACTERISTICS

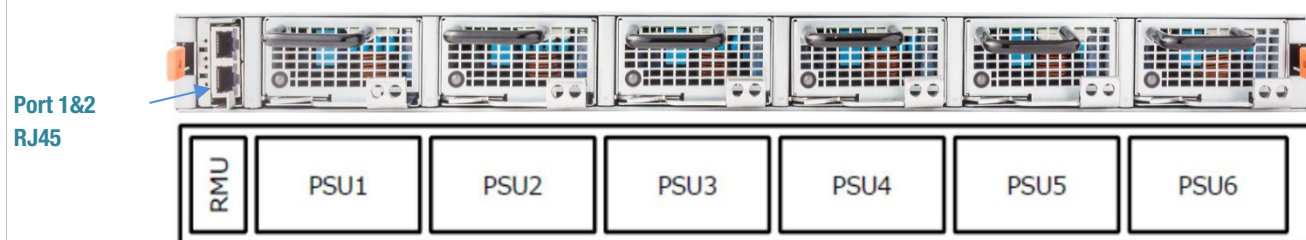
Parameter	Conditions	Min.	Typ.	Max.	Units
Insulation safety rating / test voltage	Input to output - Reinforced	3,000			Vrms
	Input to chassis	1,500			
Isolation	Output to chassis	50			Vdc

EMISSION AND IMMUNITY

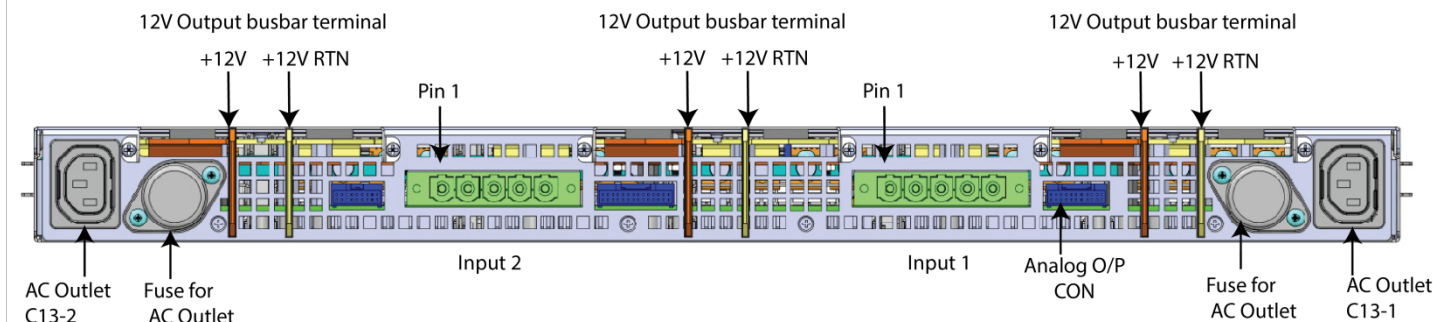
Parameter	Standard	Criteria
Input current harmonics	IEC/EN 61000-3-2	Class A
Conducted emission	CISPR 22	Class A
ESD immunity	IEC/EN 61000-4-2	Level 4 criteria A
Electrical fast transient / burst immunity	IEC/EN 61000-4-4	Level 3 criteria B
Surge immunity	IEC/EN 61000-4-5	Level 4 criteria A

PRODUCT VIEWS AND CONNECTOR DETAILS

Front View, All Models

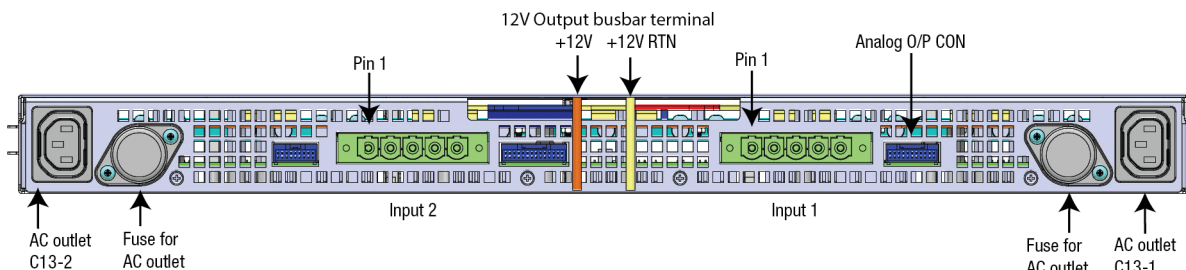


Rear View, MWOCES-211-A and MWOCES-211-B

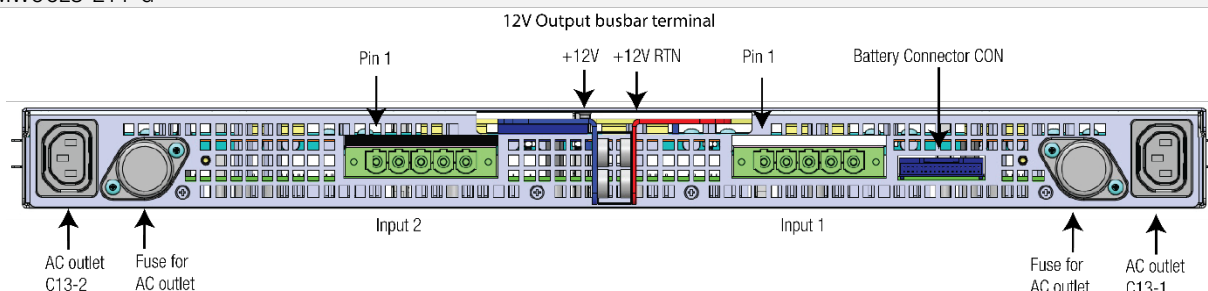


PRODUCT VIEWS AND CONNECTOR DETAILS, CONTINUED

Rear View, MWOCES-211-E and MWOCES-211-F



Rear View, MWOCES-211-G



SAFETY CONSIDERATIONS




Junction between shelf and rack Busbar may be extremely hot, in the case of a heavy load and especially when shelf is mounted in V2 Open Rack (Single Busbar). Please be aware and take adequate precautions.

INPUT CONNECTOR PIN ASSIGNMENT (AC INPUT 1 & 2)

PHOENIX CONTACT PC 6-16/5-G1F-10.16-1999039; MATING CONNECTOR: PHOENIX CONTACT PC 6-16/5-G1F-10.16 -1711404

Model: MWOCES-211-A/E			Model: MWOCES-211-B/F		
Pin No.	Signal	Function	Pin No.	Signal	Function
P1	PE	Protective Earth	P1	PE	Protective Earth
P2	NC	Not Connected	P2	N	Neutral
P3	L3	AC line voltage 3	P3	L3	AC line voltage 3
P4	L2	AC line voltage 2	P4	L2	AC line voltage 2
P5	L1	AC line voltage 1	P5	L1	AC line voltage 1

AC OUTLET CONNECTORS 1-2

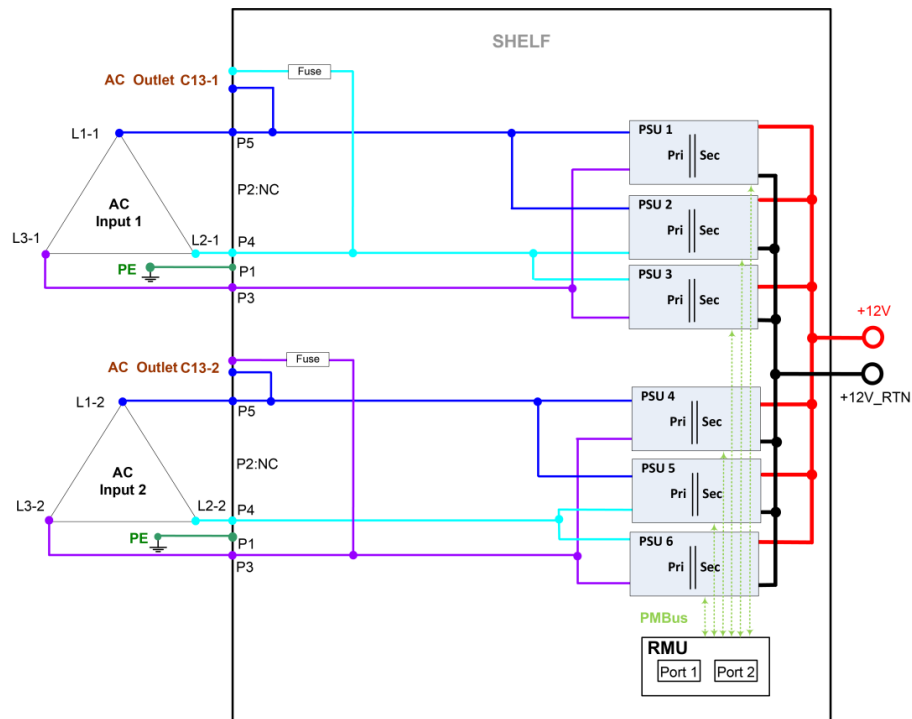
Description	Notes
IEC 320-2-2/F (C13) 	<ol style="list-style-type: none"> The convenience outlets are internally connected to the main AC inputs and are not galvanically isolated. Output voltage: 200-240VAC 50/60Hz, maximum 2.5A per outlet; Total power drawn from these outlets needs to be considered by end user when selecting the external mains circuit protector and also to ensure maximum input current ratings of this shelf are not exceeded. Branch fuse protection is provided by 600V 6A Bussmann FNQ-R-6 or LP-CC or Littlefuse KLDR006.TXP. Replaced with same type and ratings.

COMMUNICATION (WITH MWOC-RMU)

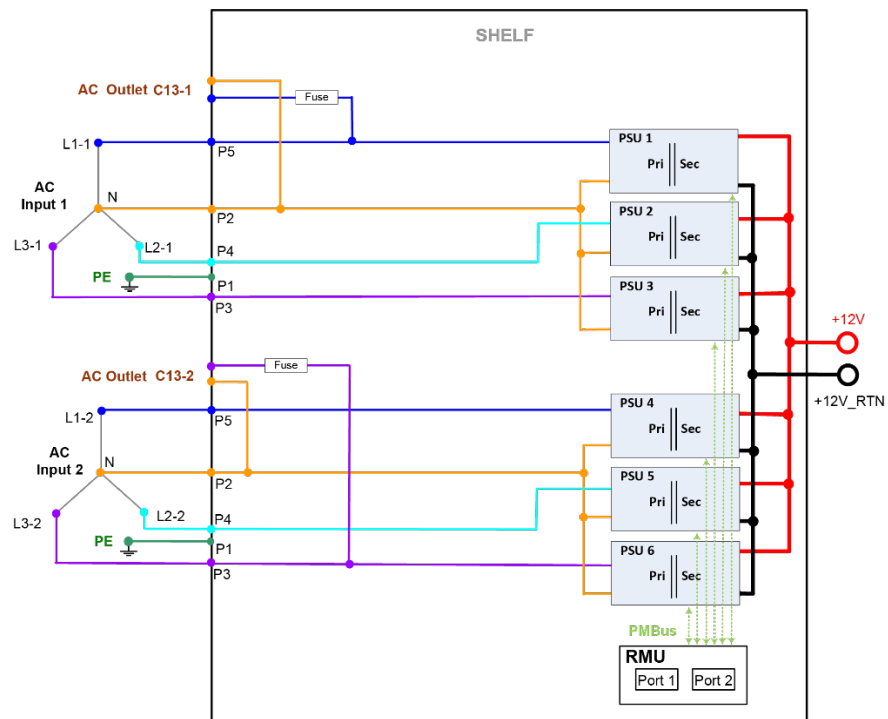
FUNCTION	DESCRIPTION
Control the units	ON/OFF control of each units installed in power shelf Select the power source line
Reporting to the host	ON/OFF Status and presence information of each unit Status of input power sources Fault information of each unit Input power and output power of PSUs Output power and SoC of battery unit

INTERNAL CONNECTION

MWOCES-211-A/E/ (Delta)

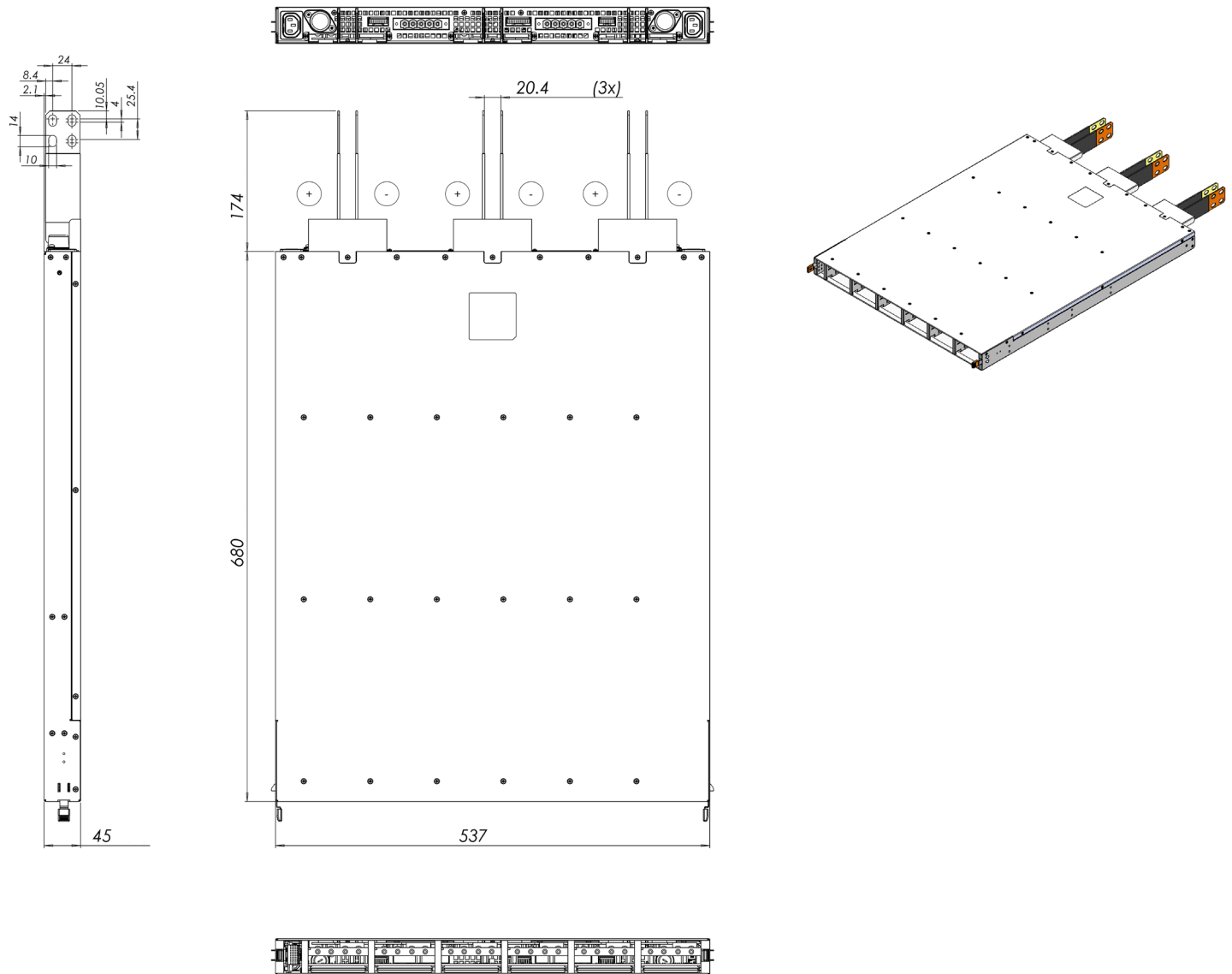


MWOCES-211-B/F/G (Wye)



MECHANICAL DRAWING

MWOCES-211-A/B models

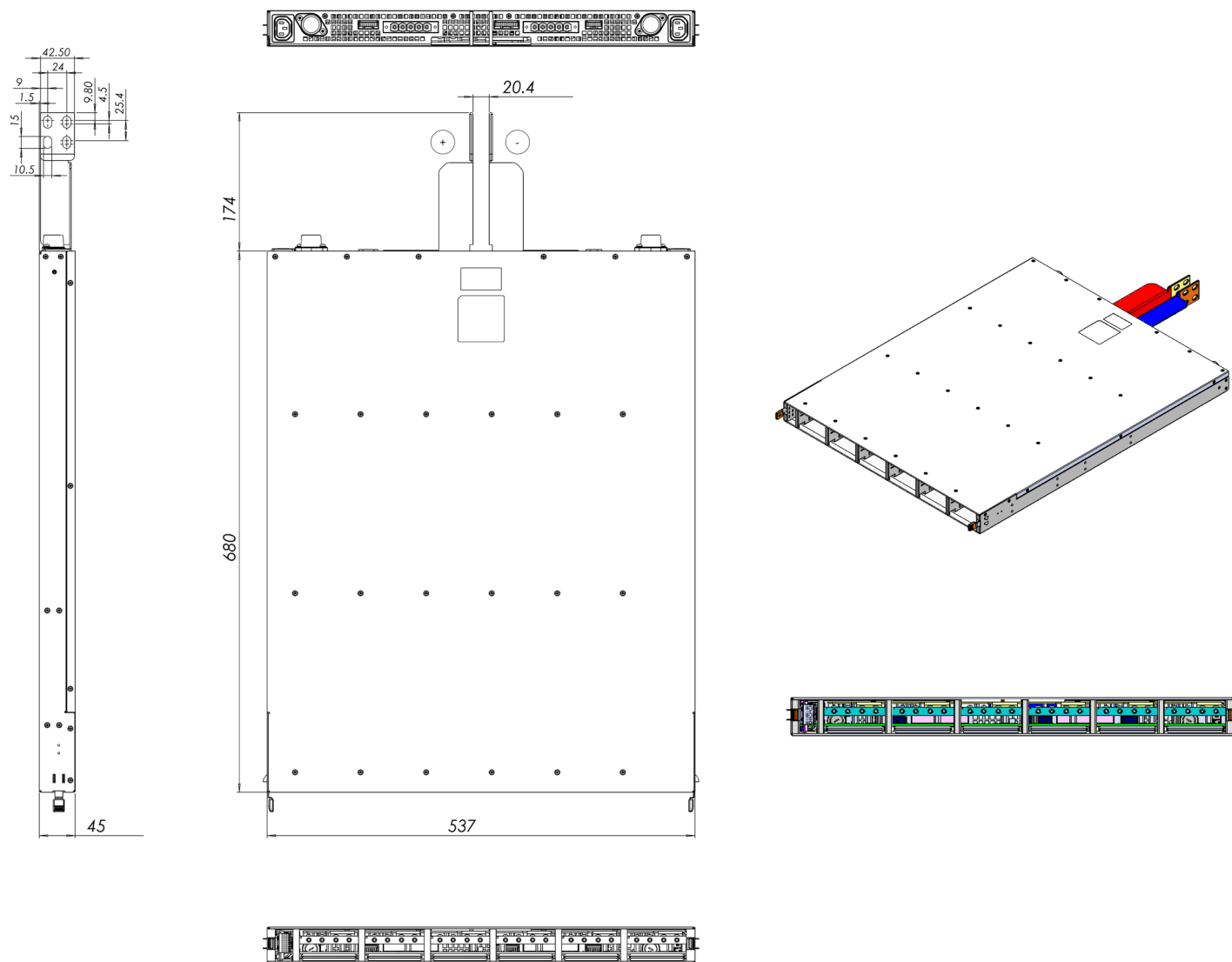


1. This drawing is a graphical representation of the product and may not show all fine details. Please contact Murata for 3D model details
2. Dimensions in mm

Link Back To [Order Guide](#)

MECHANICAL DRAWING

MWOCES-211-E/F model

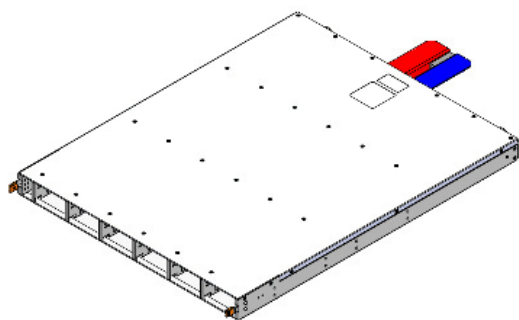
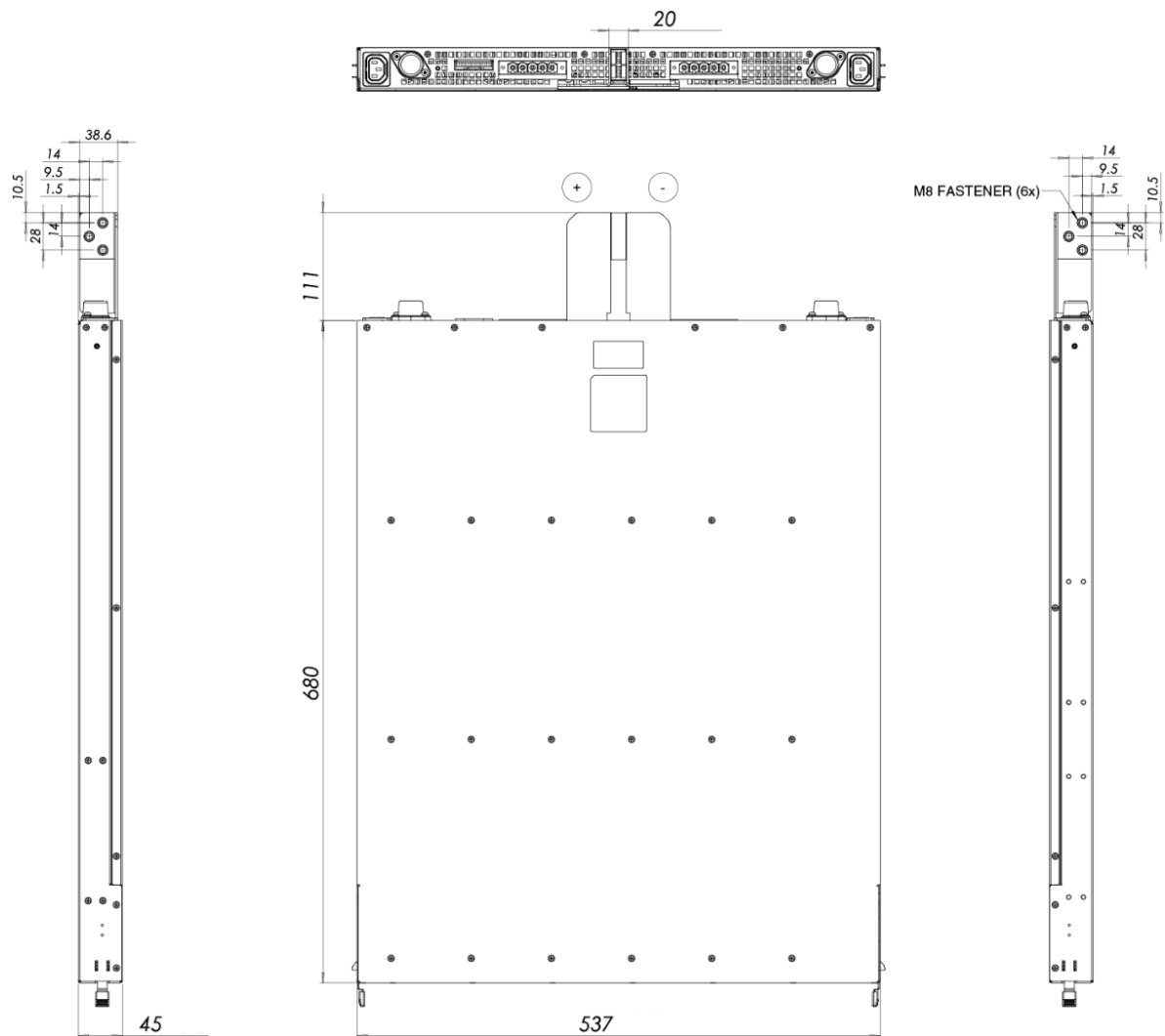


1. This drawing is a graphical representation of the product and may not show all fine details. Please contact Murata for 3D model details
2. Dimensions in mm

Link back to [Order Guide](#)

MECHANICAL DRAWING

MWOCES-211-G model



1. This drawing is a graphical representation of the product and may not show all fine details. Please contact Murata for 3D model details
2. Dimensions in mm

RELATED PRODUCT DATASHEETS

Document Number	Description	Link
MWOCS-192	19" OCF power shelf	https://power.murata.com/datasheet?/data/power/mwoes-192.pdf
MWOC-RMU	Monitor and control unit	https://power.murata.com/datasheet?/data/power/mwoc-rmu.pdf
MWOC74-3000-A-RM	3kw ac-dc front end PSU module	https://power.murata.com/datasheet?/data/power/mwoc74-3000-a-rm.pdf
MWOC_BLANKING_PANELS	Blanking panel accessories	https://power.murata.com/datasheet?/data/power/mwoc blanking panels.pdf
MWOC-KIT-8	Single power zone mounting kit for 21" 1U OCF shelf	https://power.murata.com/datasheet?/data/power/mwoc-kit-7.pdf
MWOC-KIT-9	Two power zone mounting kit for 21" 1U OCF shelf	https://power.murata.com/datasheet?/data/power/mwoc-kit-8.pdf

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Murata Power Solutions, Inc.
129 Flanders Road
Westborough, MA 01581
ISO 9001 and 14001 REGISTERED



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