



FEATURES

- Supports OCF systems
- 1RU height
- 448(W) x 809(L) x 44.4(H) mm
- 33kW total output power (N+0)
- Accommodates up to six PSU modules and one RMU
- 50.0V output
- PSU & RMU are hot-swappable
- N+1 / N+N Redundancy
- Six RJ45 ports with RMU
- Busbar-connector temperature sensor capability
- 2-year warranty



For full details go to

www.murata.com/rohs



Certificate and Test Report



PRODUCT OVERVIEW

MWOCES-191-P-D is a 33.0kW, 19" 1RU power shelf that provides a delivery system for up to six 67mm, 1U [Power Supplies \(PSU\)](#), and one [Remote Management Unit \(MWOC-RMU-3\)](#). This product is installable in a 19-inch rack. Additionally, it is intended to support 50.0V power distribution architectures in OCF (V3) systems. Two AC input connectors accommodate either three-phase four-wire delta (without neutral) or three-phase five-wire wye (with neutral) configurations for added flexibility. Each input is configured to power a group of three power supply module slots. DC output connection is provided by pluggable bus bars.

ORDERING GUIDE

Part Number ¹	Input Configuration	DC Output Busbar Configuration
MWOCES-191-P-D ²	✓ Three-Phase four wire Delta ✓ Three-Phase five wire Wye ✓ Single-Phase ✓ HVDC	Bar clip

¹ Shelf does not include the power supply modules and RMU and needed to be ordered separately as required.

² Contact Murata for availability

³ Total output voltage followed PSU input voltage de-rating

INPUT CHARACTERISTICS

Parameter	Conditions	Min.	Nom.	Max.	Unit
Input Voltage Operating Range	Line to Line (Delta source)	180	200/208/277	305	Vac
	Line to Line (Wye source with neutral connection)	312	346/360/480	529	
	HVDC	192	240/380	400	
Frequency	AC input	47	50/60	63	Hz
Input Current	Wye / Single-phase: 200-240Vac (Each input, per line)			29.3	Arms
	Delta : 200-240Vac/240-277Vac (Each input, per line)			52/43	
	240-380Vdc (each input, per line)			24.38	Adc

OUTPUT CHARACTERISTICS

Parameter	Configuration	Min.	Typ.	Max.	Units
Output Power	With six (6) PSUs	0		33000	W
	With five (5) PSUs	0		27500	
	With four (4) PSUs	0		22000	
	With three (3) PSUs	0		16500	
	With two (2) PSUs	0		11000	
	With one (1) PSU	0		5500	
Output Current	With six (6) PSUs	0		673.8	A
	With five (5) PSUs	0		561.5	
	With four (4) PSUs	0		449.2	
	With three (3) PSUs	0		336.9	
	With two (2) PSUs	0		224.6	
	With one (1) PSU	0		112.3	
Holdup Time	With six (6) PSUs [5+1]	24.0 (at 27.5kW Output power)			ms
	With six (6) PSUs [3+3]	40.0 (at 16.5kW Output power)			
	With five (5) PSUs [4+1]	25.0 (at 22.0kW Output power)			
	With four (4) PSUs [3+1]	26.7 (at 16.5kW Output power)			
	With four (4) PSUs [2+2]	40.0 (at 11.0kW Output power)			
	With three (3) PSUs [2+1]	30.0 (at 11.0kW Output power)			
	With two (2) PSUs [1+1]	40.0 (at 5.5kW Output power)			
	With one (1) PSU	20.0 (at 5.5kW Output power)			

ENVIRONMENTAL CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.	Units
Storage temperature range	Non-operating	-40		70	°C
Operating temperature range	Altitude < 3050m	-5		45	°C
Storage humidity	Non-condensing	10		93	%
Operating humidity	Non-condensing	10		90	
Shock	Per EN 60068-2-27 Operational: 11 msec half-sine, 6g, 5 shocks per face, 6 faces Non-operational: 11 msec half-sine, 12g, 10 shocks per face, 6 faces				
Vibration	Per EN 60068-2-6 Operating : Sinusoidal vibration, 5-500Hz, 0.5g Non-Operating : Sinusoidal vibration, 5-500Hz, 1g				
Safety approval	UL62368-1 : 2018 (3rd Edition) (Information Technology Equipment – safety – Part 1: General Requirements) CAN/CSA-C22.2 No. 62368-1 : 2018 (3rd Edition) (Information Technology Equipment – safety – Part 1: General Requirements) TUV : EN IEC 62368-1:2020/A11:2020 CQC : GB4943.1-2022 CB : IEC 62368-1:2018 (3rd Edition)				
Weight (Typical)	Shelf Only, without PSUs and RMU	8.5			Kg

ISOLATION CHARACTERISTICS

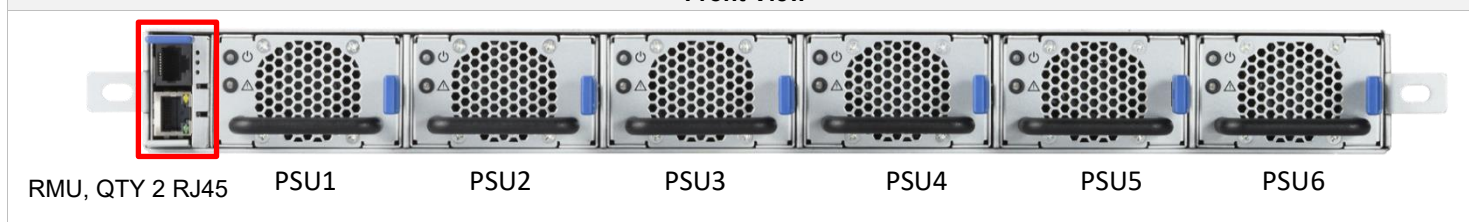
Parameter	Conditions	Min.	Typ.	Max.	Units
Insulation safety rating/test voltage	Input to output - Reinforced	5,000			Vdc
	Input to chassis	2,500			
Isolation	Output to chassis	100			Vdc

EMISSION AND IMMUNITY

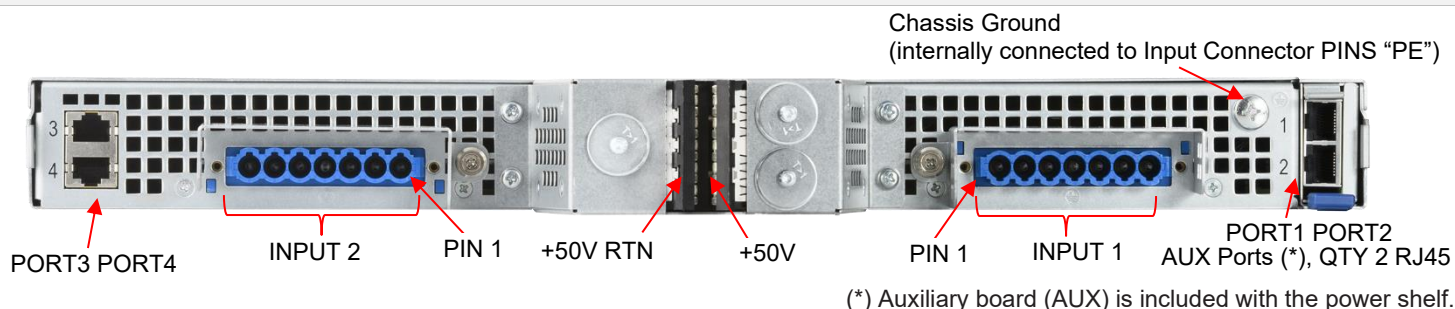
Parameter	Standard	Criteria
Input current harmonics	IEC/EN 61000-3-12	Class A
Conducted emission	CISPR 32	Class A
ESD immunity	IEC/EN 61000-4-2	Level 4 criteria A
Electrical fast transient/burst immunity	IEC/EN 61000-4-4	Level 2 criteria A
Surge immunity	IEC/EN 61000-4-5	Level 4 criteria B

PRODUCT VIEWS AND CONNECTOR DETAILS

Front View

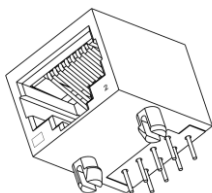


Rear View



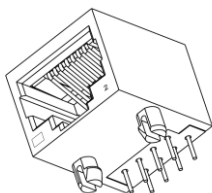
4mm² diameter(AWG10) earthing wire shall be connected to the chassis by screw at screw hole marked with "Protective Earth" symbol.

RJ45 CONNECTOR PIN ASSIGNMENT (AUX PORT 1)



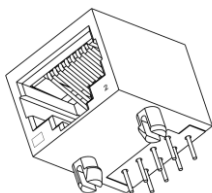
Pin	I/O	Function	Description
1	I/O	GND	-
2	I/O	PLS	Signal pass through
3	I/O	CLS	Signal pass through
4	I/O	RS-485A	Modbus communication
5	I/O	RS-485B	Modbus communication
6	I	RS485_Addr2	Modbus daisy chain
7	I	RS485_Addr1	Modbus daisy chain
8	I	RS485_Addr0	Modbus daisy chain

RJ45 CONNECTOR PIN ASSIGNMENT (AUX PORT 2)



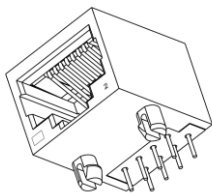
Pin	I/O	Function	Description
1	I/O	GND	-
2	I/O	PLS	Signal pass through
3	I/O	CLS	Signal pass through
4	I/O	RS-485A	Modbus communication
5	I/O	RS-485B	Modbus communication
6	O	RS485_Addr2	Modbus daisy chain
7	O	RS485_Addr1	Modbus daisy chain
8	O	RS485_Addr0	Modbus daisy chain

RJ45 CONNECTOR PIN ASSIGNMENT (PORT 3)



Pin	I/O	Function	Description
1	A	ISHARE	PSU current share signal
2	I/O	GND	-
3	I/O	SYNC_START	Sync. signal
4	-	N.C	-
5	-	N.C	-
6	I/O	AC_FAULT_CLR	Fault clear
7	-	N.C	-
8	I/O	GND	-

RJ45 CONNECTOR PIN ASSIGNMENT (PORT 4)



Pin	I/O	Function	Description
1	A	ISHARE	PSU current share signal
2	I/O	GND	-
3	I/O	SYNC_START	Sync. signal
4	-	N.C	-
5	-	N.C	-
6	I/O	AC_FAULT_CLR	Fault clear
7	-	N.C	-
8	I/O	GND	-

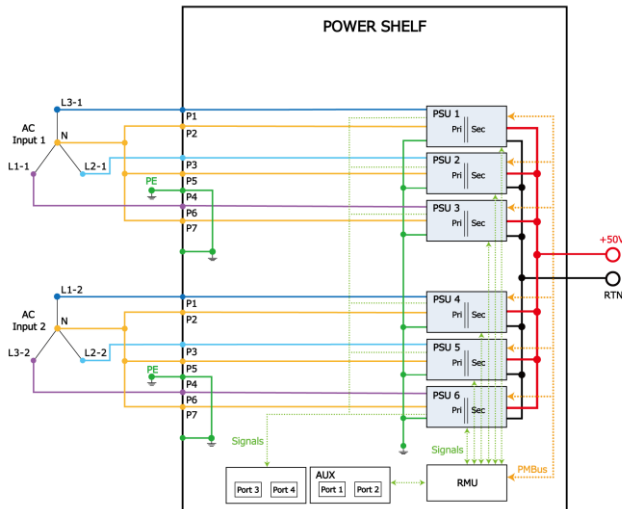
INPUT CONNECTOR PIN ASSIGNMENT (AC INPUT 1 & 2)

Equivalent to Amphenol 10170827-07P010 (Input 1), 10170827-07P011 (Input 2)
 mating connector: Equivalent to BizLink 747-63-07A2A1BNN3X090800

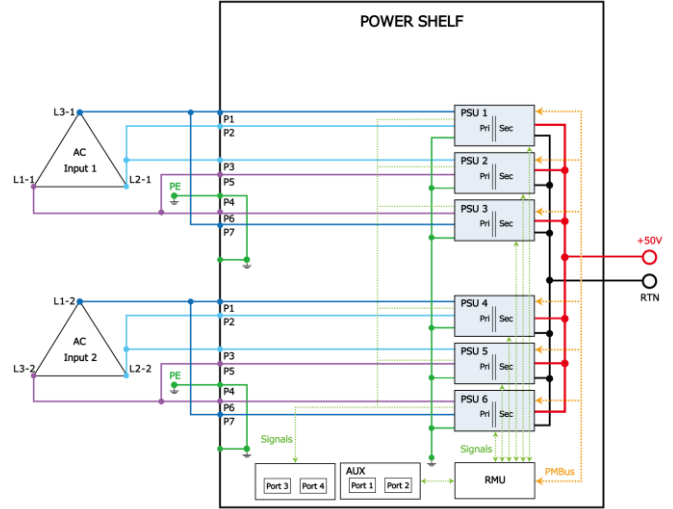
Wye Input (INPUT 1)			Delta Input (INPUT 1)			Single Input (INPUT 1)			HVDC Input (INPUT 1)		
Pin No	Signal	Function	Pin No	Signal	Function	Pin No	Signal	Function	Pin No	Signal	Function
1	L3	AC line voltage 3	1	L3	AC line voltage 3	1	L	AC live	1	(+ HVDC)	DC POSITIVE
2	N	Neutral	2	L2	AC line voltage 2	2	N	Neutral	2	(- HVDC)	DC RETURN
3	L2	AC line voltage 2	3	L2	AC line voltage 2	3	L	AC live	3	(+ HVDC)	DC POSITIVE
4	PE	Protective earth	4	PE	Protective earth	4	PE	Protective earth	4	PE	Protective earth
5	N	Neutral	5	L1	AC line voltage 1	5	N	Neutral	5	(- HVDC)	DC RETURN
6	L1	AC line voltage 1	6	L1	AC line voltage 1	6	L	AC live	6	(+ HVDC)	DC POSITIVE
7	N	Neutral	7	L3	AC line voltage 3	7	N	Neutral	7	(- HVDC)	DC RETURN
Wye Input (INPUT 2)			Delta Input (INPUT 2)			Single Input (INPUT 2)			HVDC Input (INPUT 2)		
Pin No	Signal	Function	Pin No	Signal	Function	Pin No	Signal	Function	Pin No	Signal	Function
1	L1	AC line voltage 1	1	L1	AC line voltage 1	1	L	AC live	1	(+ HVDC)	DC POSITIVE
2	N	Neutral	2	L2	AC line voltage 2	2	N	Neutral	2	(- HVDC)	DC RETURN
3	L2	AC line voltage 2	3	L2	AC line voltage 2	3	L	AC live	3	(+ HVDC)	DC POSITIVE
4	PE	Protective earth	4	PE	Protective earth	4	PE	Protective earth	4	PE	Protective earth
5	N	Neutral	5	L3	AC line voltage 3	5	N	Neutral	5	(- HVDC)	DC RETURN
6	L3	AC line voltage 3	6	L3	AC line voltage 3	6	L	AC live	6	(+ HVDC)	DC POSITIVE
7	N	Neutral	7	L1	AC line voltage 1	7	N	Neutral	7	(- HVDC)	DC RETURN

INTERNAL CONNECTION

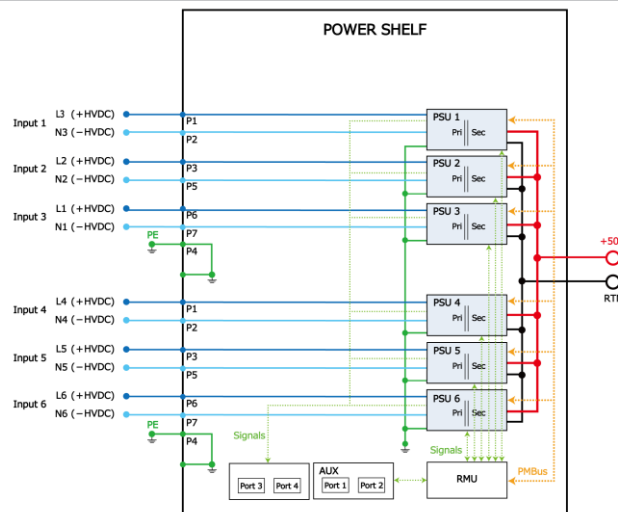
Wye input



Delta input



Single Phase & HVDC Input



COMMUNICATION (WITH MWOC-RMU-3)

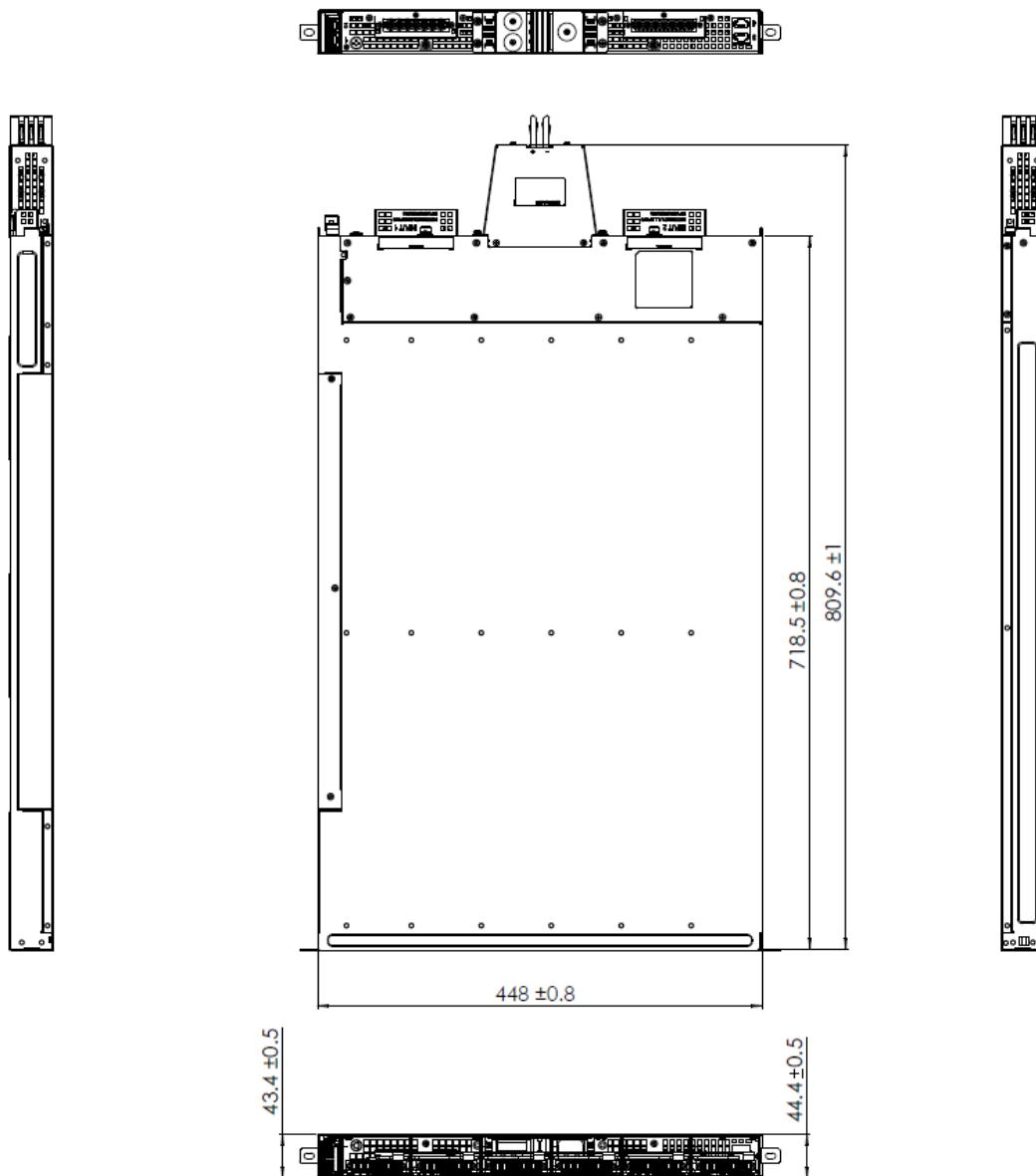
FUNCTION	DESCRIPTION
Control the units	ON/OFF control of each unit installed in the power shelf
Reporting to the host	ON/OFF Status and presence information of each unit Status of input power sources Fault information of each unit

COMMUNICATION (WITH MWOC-AUX)

FUNCTION	DESCRIPTION
Auxiliary power supply for 12V_SB	Generates 12V for RMU power supply from bus voltage.
RS485	Modbus RTU
	For communication with higher-level master systems, daisy-chain support

Link Back To [Order Guide](#)

MECHANICAL DRAWING



1. This drawing is a graphical representation of the product and may not show all fine details such as molded part surface features, internal components, screw head type. Please contact Murata for 3D model for additional details
2. Dimensions in mm
3. Subject to change without notice; contact Murata for latest version

RELATED PRODUCT DATASHEETS

Document Number	Description	Click link below to open online datasheet
MWOC-RMU-3	Monitor and control unit	Link to: Datasheet
MWOC67-5500-B-RM	5.5kw/50.0V ac-dc front-end PSU module	Link to: Datasheet
MWOC_BLANKING_PANELS	Blanking panel accessories	Link to: Datasheet
MWOC-KIT-41	Rack Mount Kit for 19" rack	Link to: Datasheet

[back to the product overview](#)

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