

# DATA SHEET

## ***19" 1RU Power Supply Frame For DisplayPort 1.2 Modules BR-500***

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# 19" 1RU Power Supply Frame For DisplayPort 1.2 Modules – BR-500

## Description

OPTICIS BR-500, 19" 1RU multi-mounting rack is a modular rack and systematic fiber-optic solution providing flexibility to install Opticis DisplayPort 1.2 modules up to 8 units. DPFX-200-Tx or DPFX-300-Tx is required in use.

Each power line of mounting unit is connected to the central bus power of +12VDC at 4.2A. BR-500 can be fit with the dual power supplies for load-sharing and redundant backup. BR-500 adopts two (2) LEDs in the front panel for power supply failure to run the stable system without any disruption or disconnection from the power failure.

BR-500 has one separate RJ45 Port which allows the connection through LAN cable. This connection to GUI enables the access to the current power status of individual module and also allows to turn on/off the power of the device. (Guide to use GUI will be updated soon)

By using premium graded DisplayPort 1.2 copper cables, BR-500 can extend up to 3m (9.84ft) distance from the sources.

**\*Note: The DisplayPort modules and 2m DisplayPort copper cables are separately sold.**

**For 3m DisplayPort copper cables, we recommend three products for decent use.**

- Lindy (PN: 36483)
- Kramer (PN: C-DP-10)
- StarTech (PN: DISPLPORT10L)

BR-500 is applicable to use with **Opticis DisplayPort 1.2 fiber-optic transmitters ONLY.**

## The shipping group is as follows;

- 1) One (1) BR-500
- 2) Eight(8) Module bracket
- 3) Eight(8) Module slot
- 4) Sixteen(16) Heat Sink
- 5) Sixteen(16) Screw
- 6) One (1) User Manual

## Optional Items:

- 1) BR-500-IT (BI050S12F02): Power Supply for BR-500 (100-240VAC, 50-60Hz)
- 2) BR-500-MD (BM050S12F02): Medical Certified Power Supply for BR-500 (100-240VAC, 50-60Hz)
- 3) 2m DisplayPort Copper Cable

## Features

- ◆ Compact 19" 1RU Power Supply Frame
- ◆ Adopts up to 8 units of Opticis DisplayPort 1.2 optical modules
- ◆ Available for primary and dual power models
- ◆ Supports Load-sharing
- ◆ Extends length from DisplayPort source up to 3m with premium graded DisplayPort 1.2 copper cable
- ◆ Provides GUI via LAN cable (RJ-45)
  - Checking current power status of each connected module
  - Turning on/off power of connected module (whole/individual)

## Applications

- ◆ Control room
- ◆ Medical imaging
- ◆ Conference room
- ◆ Any 4K Ultra High-Definition DisplayPort Solutions

## Technical Specifications

	Parameter	Specifications
Electrical	Input and output signals	ANSI 8B/10 level(complying with DP 1.2)
	Data Transfer Rate(Graphic Data)	MAX 5.4Gbps
	Total jitter at the end of output	Max. 0.5UI
Mechanical	Dimension(W x D x H)	482 x 154 x 44 mm
Connect	Electric Connector Type	20 pin DP Receptacle connector

## 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 of any other conditions in excess of those given in the operational sections of the datasheet. Exposure to absolute maximum ratings for extended periods can adversely affect device reliability.

Parameter	Symbol	Min	Max	Unit
Storage Temperature	T <sub>STG</sub>	-30	70	°C
Supply Voltage	V <sub>CC</sub>		18	V
Differential Input Voltage Swing	V <sub>ODp-p</sub>	400	1200	mV <sub>p-p</sub>
Operating Relative Humidity	RH <sub>OP</sub>	10	85 <sup>1)</sup>	%RH
Storage Relative Humidity	RH <sub>STG</sub>	10	95 <sup>2)</sup>	%RH

Note

1), 2) Under the conditions of No drops of dew

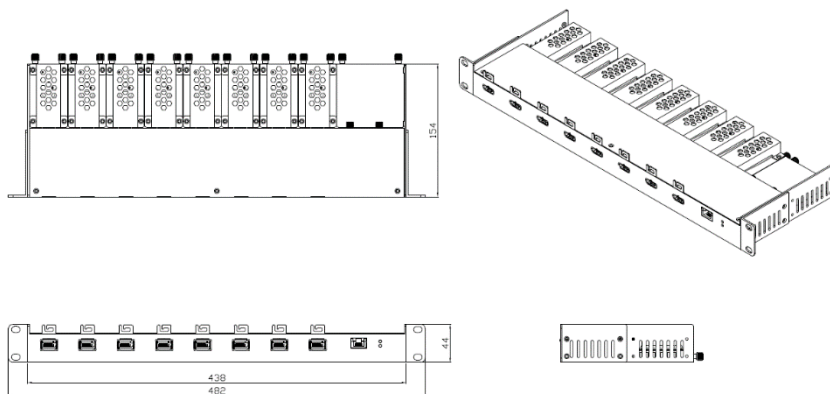
## Operating Conditions

Parameter	Symbol	Minimum	Typical	Maximum	Units
Operating Temperature	T <sub>OP</sub>	0		50	°C
Data Output Load	R <sub>LD</sub>		50		Ω
Power Supply Rejection (Note1)	PSR		50		mV <sub>p-p</sub>
Supply Voltage	V <sub>CC</sub>	8	12	16	V
Supply Current	I <sub>CC</sub>			2.5	A
Power Dissipation	P <sub>TX</sub>			30	W

Note 1. Tested with a 50 mV<sub>p-p</sub> sinusoidal signal in the frequency range from 500Hz to 500MHz on the V<sub>CC</sub> supply with the recommended power supply filter in place. Typically less than a 0.25dB change in sensitivity is experienced.

## Drawing

Dimensions [mm]



**482x 154 x 22mm(WDH)**

## DisplayPort Pin Description

### Input

Pin	Symbol	Mating Row Contact Location	Functional Description
1	ML_Lane0(p)	Top	Display port Data Lane0 Positive
2	GND	Bottom	Ground
3	ML_Lane0(n)	Top	Display port Data Lane0 Negative
4	ML_Lane1(p)	Bottom	Display port Data Lane1 Positive
5	GND	Top	Ground
6	ML_Lane1(n)	Bottom	Display port Data Lane1 Negative
7	ML_Lane2(p)	Top	Display port Data Lane2 Positive
8	GND	Bottom	Ground
9	ML_Lane2(n)	Top	Display port Data Lane2 Negative
10	ML_Lane3(p)	Bottom	Display port Data Lane3 Positive
11	GND	Top	Ground
12	ML_Lane3(n)	Bottom	Display port Data Lane3 Negative
13	CONFIG1	Top	Cable Adaptor Detect
14	CONFIG2	Bottom	None
15	AUX CH(p)	Top	Display port AUX Channel Positive
16	GND	Bottom	Ground
17	AUX CH(n)	Top	Display port AUX Channel Negative
18	Hot Plug Detect	Bottom	HPD is used to detect a sink device by the source device
19	Return	Top	None
20	DP_PWR	Bottom	None

### Output

Pin	Symbol	Mating Row Contact Location	Functional Description
1	ML_Lane3(p)	Top	Display port Data Lane3 Positive
2	GND	Bottom	Ground
3	ML_Lane3(n)	Top	Display port Data Lane3 Negative
4	ML_Lane2(p)	Bottom	Display port Data Lane2 Positive
5	GND	Top	Ground
6	ML_Lane2(n)	Bottom	Display port Data Lane2 Negative
7	ML_Lane1(p)	Top	Display port Data Lane1 Positive
8	GND	Bottom	Ground
9	ML_Lane1(n)	Top	Display port Data Lane1 Negative
10	ML_Lane0(p)	Bottom	Display port Data Lane0 Positive
11	GND	Top	Ground
12	ML_Lane0(n)	Bottom	Display port Data Lane0 Negative
13	CONFIG1	Top	Cable Adaptor Detect
14	CONFIG2	Bottom	None
15	AUX CH(p)	Top	Display port AUX Channel Positive
16	GND	Bottom	Ground
17	AUX CH(n)	Top	Display port AUX Channel Negative
18	Hot Plug Detect	Bottom	HPD is used to detect a sink device by the source device
19	Return	Top	None
20	DP_PWR	Bottom	None

## Revision History

Version	date	History
1.0	2019-10	Released
1.1	2020-11	Company address modified
1.2	2021-02	Shipping group modified