



TRANSMISSION SOLUTIONS SPECIALISTS

QUICK INSTALLATION GUIDE

NHD110DRMicro-SST/R

NHD110DRMicro-SMT/R

HD-SDI Series

Microtype 1-CH HD-SDI With 1-CH Reverse Data Transmitter/Receiver

(1) Safety Instructions

Please be familiar with all information in this quick installation guide and product manual prior to installation and operation.

Note 1: The products described contain a Class 1 laser or LED fiber optic emitter. The following safety precautions apply.

Warning: Do not disconnect the fiber optic connector while the unit is powered up. Exposure to Class I invisible optical radiation is possible when the internal fiber optic connector is disconnected while the unit is powered up.

Caution: Any access to the controls, adjustments, or performing operations, which are other than those specified may result in hazardous radiation exposure. Permanent eye damage or other bodily injuries may be resulted from such exposure even for only seconds.

Note 2: This assembly contains parts sensitive to damage by electrostatic discharge (ESD). ESD precautionary procedures should be applied in the course of touching, removing or inserting parts or assemblies.

(2) Installation

2.1 General

All OT Systems products are thoroughly inspected, tested and securely packaged before delivery to ensure a stable, intact and trouble-free service. Please check the equipment upon receipt for any visible damage which may have been caused during shipping.

The NHD110DRMicro units can be either horizontally or vertically wall-mounted, or mounted on any fixture, etc. The Micro unit works with an external power supply 12VDC powered by local 110/220V power.

2.2 Micro unit installation

- a) Mount the clip onto a fixture, e.g. a plank, (either on the wall or on a flat surface) with two screws piercing through the holes on the mounting frame to secure it in position.
- b) The power supply should also be mounted on the same fixture or in the proximity for connection of the supply cables to the unit, provided that an AC power supply socket is near by for powering the adaptor.
- c) Push the Micro unit into the clip to secure it in position.
- d) Connect all the signal inputs and outputs of the unit with appropriate cables:
 - i) fiber optic cable for optical link,
 - ii) BNC cable for SD-SDI or HD-SDI input/output (Tx/Rx).
 - iii) UTP cable for data input/output (Tx/Rx).
- e) Once the unit is powered up, check that the red PWR LED on the unit is lit. If not, check the power supply cable connections between the unit and the power supply socket.
- f) With all the signals available at the input and output ports, check the status of LEDs located on the unit. With correct status of each LED, installation is now completed [for LEDs status, see **Operational Guides** on this manual's section **(4)**].

(3) Cable Connections & Setup Procedures

3.1 Data port assignment and pin connections

For data input and output connections, please note the following pin assignment:

Pin Assignment (Screw Terminal Block)	1	2	3	4	5	6	7
Data format							
RS422/485 (4-Wire)	IN(+)	IN(-)	OUT(+)	OUT(-)	N/A	N/A	GND/Sig.COM
RS485 (2-Wire)	IN/OUT (+)	IN/OUT (-)	N/A	N/A	N/A	N/A	GND/Sig.COM

4-Wire RS422/485 Full Duplex Data communication connection diagram:

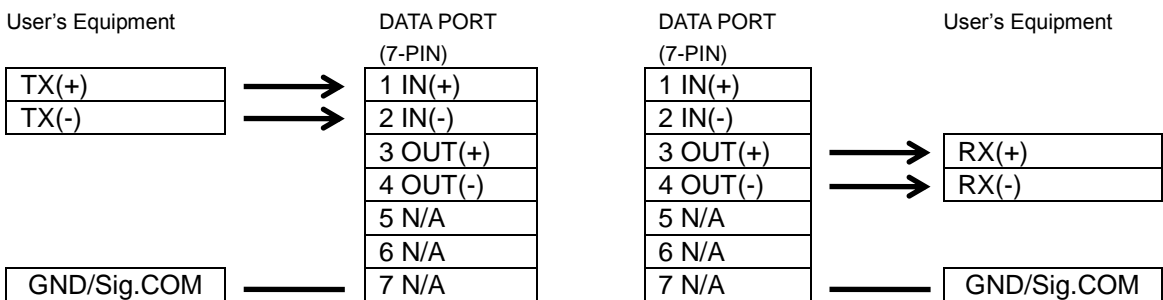


Fig. 3.1 Connector Pin Assignments for 4-wire RS422/485 data format at Data port

3.2 Dip switch setting procedures

The only setup procedure is to select the appropriate line terminations and data transmission formats. Selections must be made by setting the dip switches through the access on the front panel.

Dip switch settings for line terminations

Line Output Termination at TX	
Function / Switch No.	Sw. 1
Line Output Terminated	ON
Line Output Unterminated*	OFF

Line Input Termination at RX	
Function / Switch No.	Sw. 2
Line Input Terminated	ON
Line Input Unterminated*	OFF

Dip switch settings for RS422/RS485

Data Format	Sw. 3	Sw. 4
RS422/485	OFF	ON

* Factory setting for RS422/485 (Line Output and Line Input "Unterminated")

(4) Ground connections

For enhanced safety to reduce the risks of electrical shock and physical damage, caused by lightning and other power surges, as well as a connection to the surge suppression devices in the product, a screw terminal is provided on the Micro cabinets. It is highly recommended that the Micro unit have good ground connections to the buildings ground in accordance with the local codes.

(5) Operational Guides

5.1 Transmitter

LED Indicators

Indicator	Colour	Description
PWR	Green	Lit when power is supplied to the Transmitter.
SDI/HD	OFF	SD signal input.
	Green	HD signal input.
SDI IN	Green	Lit when SD-SDI or HD-SDI signal is fed into the SDI IN connector.
DOUT	Green	Lit when output data is available at Tx

Signal Ports

OPT -	ST Optical Connector for fiber cable connection.
SDI IN -	BNC Video Connector for SD-SDI or HD-SDI signal input.
DATA -	7-pin Screw Terminal Block for data signal.
12V- GND-	2-PIN Screw connector for 12VDC power input.

5.2 Receiver

LED Indicators

Indicator	Colour	Description
PWR	Green	Lit when power is supplied to the Receiver.
OL	Green	Lit when optical signal from receiver to transmitter is active.
SDI OUT	Green	Lit when SD-SDI or HD-SDI signal is received at SDI OUT connector.
DIN	Green	Lit when input data is available at Rx

Signal Ports

OPT -	ST Optical Connector for fiber cable connection.
SDI OUT -	BNC Video Connector for SD-SDI or HD-SDI signal output.
DATA -	7-pin Screw Terminal Block for data signal.
12V- GND-	2-PIN Screw connector for 12VDC power input.

Manual Earth Green manual is available on our website www.ot-systems.com