Infinova

FIBER OPTIC TRANSMISSION SYSTEM

N3952 SERIES

Digital 8-ch Unidirectional or 4-ch Bidirectional Contact Closure Signal Collector

User Manual

Infinova

Contents

SERVICE NOTICE

The installation of this product should be conducted by qualified personnel. Do not attempt to service this product yourself. Refer all servicing to qualified personnel.

If you require information during installation of this product or if service seems necessary, contact the local suppliers or Infinova at 1-732-355-9100 in 51 Stouts Lane, Monmouth Junction, NJ 08852 U.S.A. You must obtain a Return Authorization Number and shipping instructions before returning any product for service.

Our obligation under this warranty is limited only to the repair or replacement of any of our products, provided that products are used within the specified ratings and applications, and that products are applied in accordance with good engineering practices, and that products are proved by our examination to be defective.

This warranty does not extend to any Infinova products which have been subject to acts of accident, misuse, abuse, neglect, improper application or installation, improper operation or maintenance, connection to an improper voltage supply or to materials which have been altered or repaired outside an authorized Infinova factory repair center.

Information provided by Infinova is accurate and reliable. However, no responsibility is assumed by Infinova for its use; nor for any infringements of other rights of third parties which may result from its use. No license is granted by implications or otherwise under any patent or patent rights of Infinova.

WARNING

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

DO NOT LOOK INTO OPTICAL PORTS WITH POWER ON.

PRODUCT DESCRIPTION

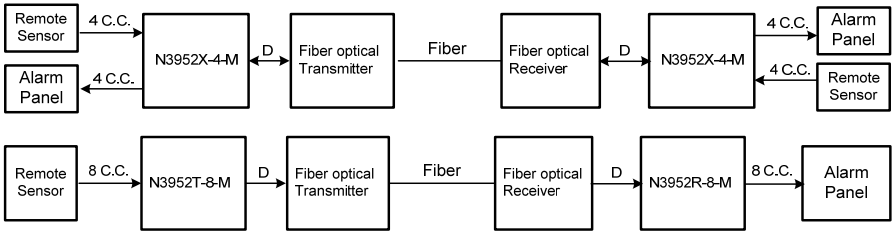
Description

The N3952 series is a contact closure signals collector. This series can convert the input contact closure signals to one RS-232/RS-422 data, and convert input RS-232/RS-422 data to 8-ch unidirectional or 4-ch bidirectional contact closure signals. It can transmit the contact closure signals over a long distance when connecting with fiber optical transmission system. The number of contact closure channels is default setting, so are the data format.

8-ch unidirectional N3952T-8 is compatible with unidirectional N3952R-8, 4-ch bidirectional N3952X-4 is compatible with N3952X-4.

The series can be used in the field of smart buildings, Security and Surveillance, Telemedicine, Broadcast, Cable TV and etc.

System Diagram



ORDERING INFORMATION

Refer to the table below for the configurations of specific models.

Model	Descriptions
N3952X-4-M/R	Digital 4-ch bidirectional Contact Closure signals transceiver
N3952T-8-M/R	Digital 8-ch unidirectional Contact Closure signals transmitter
N3952R-8-M/R	Digital 8-ch unidirectional Contact Closure signals receiver

INSTALLATION

To install the series, RS232/RS422 data input/output is via one 4-pin connector and contact closure signal input/output via one 16-pin connector.

The series includes rack mount card unit and standalone Module:
To install Card Units: Slide the top and bottom card extrusions along the mirror image card guides (not in spaces between the guides). There is an Infinova logo at the top of card front panel to indicate proper top to bottom orientation. Push hard to make good connection to motherboard - loud snap indicates good installation. There are two captive screws on top and bottom of front panel that hold each card to the subrack. These must be locked by hand in a clockwise manner (do not over tighten).

WARNING: A FULLY LOADED SUBRACK REQUIRES FORCED AIR COOLING IN THE RACK. TO AVOID OVER HEATING OF CARD UNITS, WHENEVER POSSIBLE, INSTALL IN EVERY OTHER SLOT.

POWER SUPPLY

POWER SUPPLY FOR CARD UNITS:

The unit is powered by a plug-in power supply that is offered with the appropriate desk chassis or EIA 19" subrack.

4-POSITION DIP-SWITCH DEFINITION

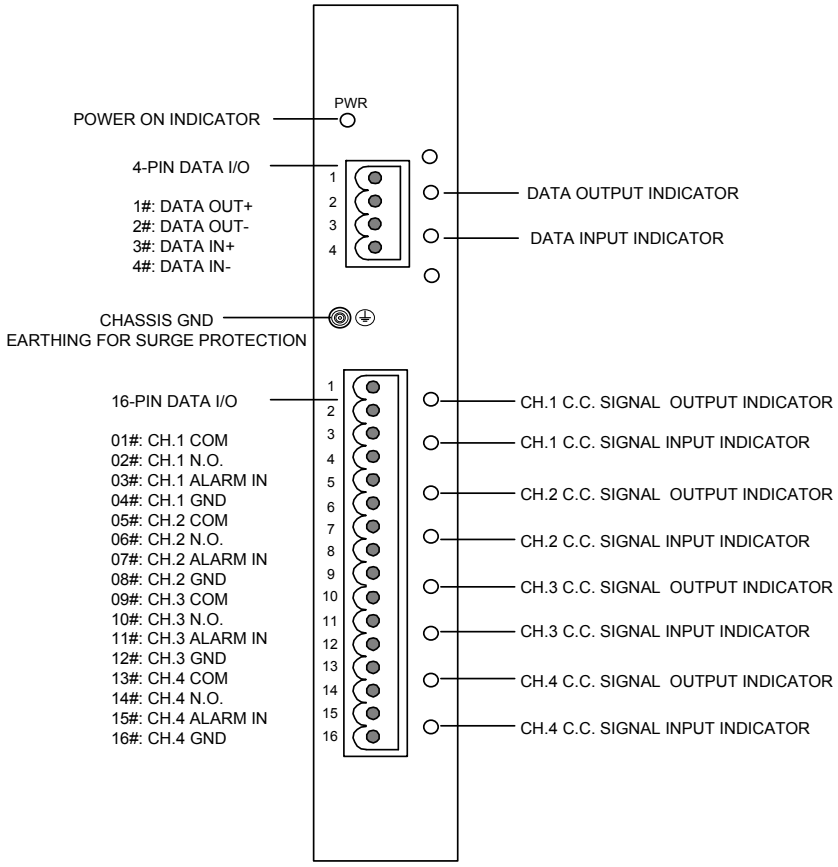
There is DIP-1 and DIP-2 to set the address for each fiber optical transmission, DIP-3 and DIP-4 is to select data direction. The detail is

	DIP-3	DIP-4
ON	Receive	Unidirectional
OFF	Transmit	Bidirectional

PANEL DESCRIPTION

N3952X-4

4-ch Bidirectional Contact Closure Signal Transceiver



Relation between 24VAC Cable Diameter and Transmission Distance

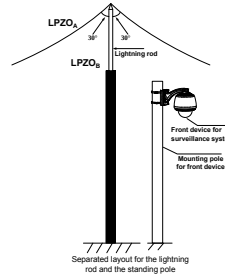
In general, the maximum allowable voltage loss rate is 10% for AC-powered devices. The table below shows the relationship between transmission power and maximum transmission distance under a certain specified cable diameter, on condition that the 24VAC voltage loss rate is below 10%. According to the table, if a device rated at 50W is installed 17-meter away from the transformer, the minimum cable diameter shall be 0.8000mm. A lower diameter value tends to cause voltage loss and even system instability.

Diameter (mm) / Distance (ft / m) / Power (W)	0.8000	1.000	1.250	2.000
10	283 (86)	451 (137)	716 (218)	1811 (551)
20	141 (42)	225 (68)	358 (109)	905 (275)
30	94 (28)	150 (45)	238 (72)	603 (183)
40	70 (21)	112 (34)	179 (54)	452 (137)
50	56 (17)	90 (27)	143 (43)	362 (110)
60	47 (14)	75 (22)	119 (36)	301 (91)
70	40 (12)	64 (19)	102 (31)	258 (78)
80	35 (10)	56 (17)	89 (27)	226 (68)
90	31 (9)	50 (15)	79 (24)	201 (61)
100	28 (8)	45 (13)	71 (21)	181 (55)
110	25 (7)	41 (12)	65 (19)	164 (49)
120	23 (7)	37 (11)	59 (17)	150 (45)
130	21 (6)	34 (10)	55 (16)	139 (42)
140	20 (6)	32 (9)	51 (15)	129 (39)
150	18 (5)	30 (9)	47 (14)	120 (36)
160	17 (5)	28 (8)	44 (13)	113 (34)
170	16 (4)	26 (7)	42 (12)	106 (32)
180	15 (4)	25 (7)	39 (11)	100 (30)
190	14 (4)	23 (7)	37 (11)	95 (28)
200	14 (4)	22 (6)	35 (10)	90 (27)

Lightning & Surge Protection

The product adopts multi-level anti-lightning and anti-surge technology integrated with gas discharge tube, power resistor and TVS tube. The powerful lightning and surge protection barrier effectively avoids product damage caused by various pulse signals with power below 4kV, including instantaneous lightning, surge and static. However, for complicated outdoor environment, refer to instruction below for lightning and surge protection:

- The product features with dedicated earth wire, which must be firmly grounded. As for surveillance sites beyond the effective protection scope, it's necessary to erect independent lightening rods to protect the security devices. It's recommended to separate the lightning rod from the mounting pole, placing the rod on an independent pole, as shown in the figure below. If the product has to be installed on the same pole or pedestal for lightning rod, there should be strict insulation between the video cable BNC terminal, power cable, control cable and the standing pole of the lightning rod.
- For suburb and rural areas, it's recommended to adopt direct burial for the transmission cables. Overhead wiring is prohibited, because it's more likely to encounter lightning strike. Use shielded cables or thread the cables through metal tubes for burial, thus to ensure the electric connection to the metal tube. In case it's difficult to thread the cable through the tube all the way, it's acceptable to use tube-threaded cables only at both ends of the transmission line, yet the length in burial should be no less than 15 meters. The cable sheath and the tube should be connected to the lightning -proof grounding device.
- Additional high-power lightning-proof equipment and lightning rods should be installed for strong thunderstorm or high induced voltage areas (such as high-voltage substation).
- The lightning protection and grounding for outdoor devices and wires should be designed in line with the actual protection requirement, national standards and industrial standards.
- The system should perform equipotential grounding by streaming, shielding, clamping and earthing. The grounding device must meet anti-interference and electric safety requirements. There should be no short-circuiting or hybrid junction between the device and the strong grid. Make sure there's a reliable grounding system, with grounding resistance below 4Ω (below 10Ω for high soil resistivity regions). The cross-sectional area of the earthing conductor should be no less than 25mm².



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