NA-9189

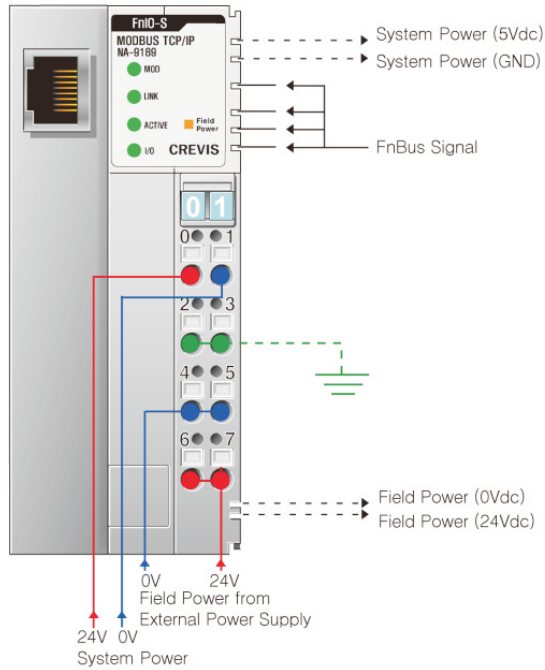## MODBUS TCP/IP Network Adapter, 252 bytes input and 252 bytes output

MODBUS Electrical Interface

RJ-45	Signal Name	Description
1	TD+	Transmit +
2	TD-	Transmit -
3	RD+	Receive +
4	-	-
5	-	-
6	RD-	Receive -
7	-	-
8	-	-
Case	Shield	-

MODBUS TCP/IP

Item	NA-9189
Interface Specification	
Adapter Type	Slave node (MODBUS/TCP Server)
Max. Expansion Module	32 Slots
Max. Input Size	126 words (252 bytes)
Max. Output Size	126 word (252 bytes)
Max. Length Bus Line	Up to 100m from Ethernet Hub/Switch with twisted CAT 3 UTP/STP
Max. Nodes	Limited by Ethernet Specification
Baud rate	10/100 Mbps, Auto-negotiation, Full duplex
Protocol	8 MODBUS/TCP, 4 HTTP, BOOTP. TBD
Interface Connector	RJ-45 socket
IP-Address Setup	Via ARP, BOOTP.
Indicator	5 LEDs 1 Green/Red, Module Status (MOD) 1 Green, Link Status (LINK) 1 Green, Active Status (Active) 1 Green/Red Expansion I/O Module Status (I/O) 1 Green, Field Power Status
Module Location	Starter module left side of FnIO system
Field Power Detection	About 11Vdc
General Specification	
System Power	Supply Voltage : 24Vdc nominal Supply Voltage Range : 11~28.8Vdc Protection : Output Current Limit (Min 1.5A) Reverse Polarity Protection
Power Dissipation	60mA Typical @24Vdc
Current for I/O Module	1.5A @5Vdc
Isolation	System power to internal logic : Non-isolation System power to I/O driver : Isolation
Field Power	Supply voltage : 24Vdc nominal Supply voltage range : 11~28.8Vdc
Max. Current Field Power Contact	DC 10A Max.
Weight	150g
Module Size	45mm x 99mm x 70mm
Environment Condition	Refer to " Environment Specification"(page : 1-191)

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Network Adapter

Status LED Indicator

MOD : Module Status LED

Status	LED is	To indicate
No Power	Off	No power is supplied to the unit.
Device Operational	Green	The unit is operating in normal condition.
Device in Standby	Flashing Green	The device needs commissioning due to configuration missing, incomplete or incorrect.
MODBUS Error	Green / Red Toggle	MODBUS error such as watchdog error, etc.
Minor Fault	Flashing Red	Recoverable Fault － EEPROM sum check error.
Unrecoverable Fault	Red	The device has an unrecoverable fault. － Memory error or CPU watchdog error.

LINK : Physical Connection LED

Status	LED is	To indicate
Not Powered	Off	Device is not on-line or may not be powered
Adapter physical connected	Green	Adapter Ethernet Controller Physically connected

ACTIVE : Exchange Data / Traffic Present LED

Status	LED is	To indicate
Not Powered	Off	Device is not on-line or may not be powered
Adapter Exchange data	Flashing Green	Adapter(Slave) exchange data/Traffic present. About 10msec flashing.

I/O : Expansion Module Status LED

Status	LED is	To indicate
Not Powered No Expansion Module	Off	Device has no expansion module or may not be powered
Fn-Bus On-line, Do not Exchanging I/O	Flashing Green	Fn-Bus is nomal but does not exchanging I/O data (Passed the expansion module configuration).
Fn-Bus Connection, Run Exchanging I/O	Green	Exchanging I/O data
Fn-Bus connection fault During exchanging I/O	Red	One or more expansion module occurred in fault state - Changed expansion module configuration - Fn-Bus communication failure
Expansion Configuration Failed	Flashing Red	Failed to initialize expansion module - Detected invalid expansion module ID - Overflowed Input/Output Size - Too many expansion module - Initial protocol failure - Mismatch vendor code between adapter and expansion module.

Field Power : Field Power Status LED

State	LED is :	To indicate :
Not Supplied Field Power	Off	Not Supplied 24V dc Field Power
Supplied Field Power	Green	Supplied 24V dc Field Power

Mapping Data into the Image Table