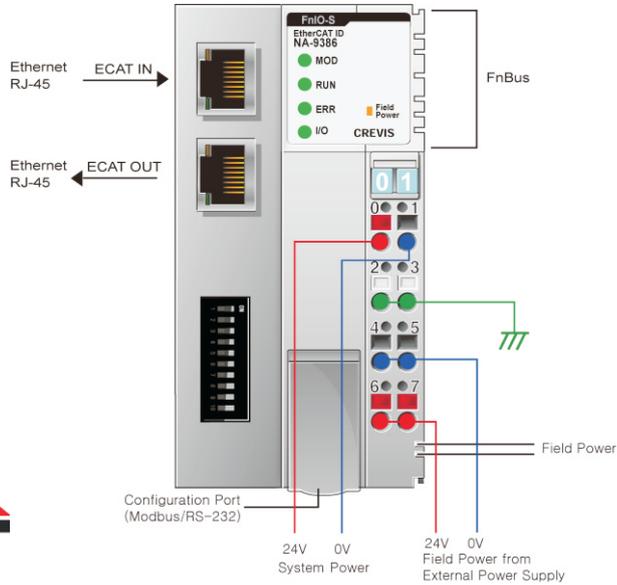


NA-9386

EtherCAT ID Network Adapter, 252 bytes input and 252 bytes output



Item	NA-9386
Interface Specification	
Adapter Type	EtherCAT ID Type Slave Node
Max. Expansion Module	63 Slots
Max. Input Size	252 Bytes
Max. Output Size	252 Bytes
Data Baud Rate	100 Mbps
Max. Nodes	65,535
Interface Connector	RJ-45 Socket * 2pcs
Mac Address / IP Address	65535
Other Serial Port	RS232 for MODBUS/RTU(Touch Panel, IOGuide ...)
Serial Configuration (RS232)	Node : 1 (Fixed) Baud Rate : 115200 (Fixed) Data bit : 8 (Fixed) Parity bit : No parity (Fixed) Stop bit : 1 (Fixed)
Indicator	5 LEDs (Front Window) 1 Green/Red, Module Status (MOD) 1 Green/Red, Current Running Status (RUN) 1 Green/Red, Error Status (ERR) 1 Green/Red Expansion I/O Module Status (I/O) 1 Green, Field Power Status 2 LEDs (each RJ-45 Connector) 1 Green, Link / Active 1 Yellow, Not used
Module Location	Left side of S-Series 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	90mA Typical @24Vdc
Current for I/O Module	1.5A @5Vdc
Isolation	System Power to internal logic : Non-isolation / System power I/O driver : Isolation System to Physical (RJ-45) : Trans, Isolation
Field Power	Supply Voltage : 24Vdc nominal / Supply Voltage Range : 11~28.8Vdc
Max. Current Field Power Contact	DC 10A Max.
Weight	167g
Module Size	54mm x 99mm x 70mm
Environment Condition	Refer to " Environment Specification"(page : 1-191)

Network Adapter

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 EEPROM parameter is not initialized yet. Serial Number is zero value (0x00000000)
Minor Fault	Flashing Red	The unit has occurred recoverable fault in self-testing. - EEPROM checksum fault
Unrecoverable Fault	Red	The unit has occurred unrecoverable fault in self-testing. - Firmware fault

RUN : Current Running Status LED

Status	LED is	To indicate
Init	Off	State of the EtherCAT State Machine: INIT = Initialization
Pre-Operational	Blinking	State of the EtherCAT State Machine: PREOP = Pre-Operational
Safe-Operational	Single Flash	State of the EtherCAT State Machine: SAFEOP = Safe-Operational
Initialization or Bootstrap	Flashes	State of the EtherCAT State Machine: BOOT = Bootstrap (Update of the coupler firmware)
Operational	On	State of the EtherCAT State Machine: OP = Operational

ERR : Error Status LED

Status	LED is	To indicate
No Error	Off	No Error
Invalid Configuration	Blinking	Invalid Configuration
Unsolicited State Change	Single Flash	Local Error
Application Watchdog Timeout	Double Flash	Process Data Watchdog Timeout / EtherCAT Watchdog Timeout
Booting Error	Flashes	Booting Error
PDI Watchdog Timeout	On	Application Controller Failure

I/O : Expansion Module Status LED

Status	LED is	To indicate
Not Powered Not 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 normal 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	Flashing Red	One or more expansion module occurred in fault state. - Changed expansion module configuration. - Fn-Bus communication failure.
Expansion Configuration Failed	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

Status	LED is	To indicate
Not Supplied Field Power	Off	Not supplied 24V dc field power
Supplied Field Power	Green	Supplied 24V dc field power

Electrical Interface

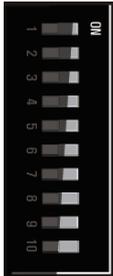
Field Power Status LED

Status	LED is	To indicate
Not supplied field power	Off	Not supplied 24Vdc field power
Supplied field power	Green	Supplied 24Vdc field power

Field Power Status LED

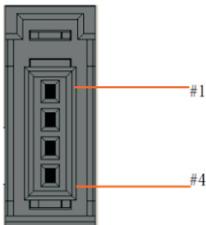
LED ON	Constantly ON
LED OFF	Constantly OFF.
LED flickering	Equal ON and OFF times with a frequency of approximately 10 Hz: ON for approximately 50ms and OFF for approximately 50ms.
LED blinking	Equal ON and OFF times with a frequency of approximately 2, 5Hz: ON for approximately 200ms followed by OFF for approximately 200ms.
LED single flash	One short flash (approximately 200ms) followed by a long OFF phase (approximately 1000ms)
LED double flash	A sequence of two short flashes (approximately 200ms), separated by an OFF phase (approximately 200ms). The sequence is finished by a long OFF phase (approximately 1000ms)
LED triple flash	A sequence of three short flashes (approximately 200ms), separated by an OFF phase (approximately 200ms). The sequence is finished by a long OFF phase (approximately 1000ms)

Dip Switch



DIP Pole#	Description
1	IdentificationValue DIP bit#0
2	IdentificationValue DIP bit#1
3	IdentificationValue DIP bit#2
4	IdentificationValue DIP bit#3
5	IdentificationValue DIP bit#4
6	IdentificationValue DIP bit#5
7	IdentificationValue DIP bit#6
8	IdentificationValue DIP bit#7
9	Not Used
10	Not Used

RS232 Port for MODBUS/RTU, Touch Panel or IO Guide



RS232		
Pin#	Signal Name	Description
1	Reserved	-
2	TXD	RS232 TXD
3	RXD	RS232 RXD
4	GND	RS232 Ground

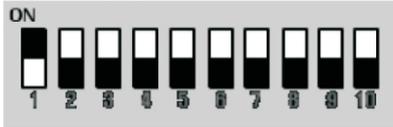
Network Adapter

EtherCAT ID Type Setup

Hot Connection On TwinCAT

Hot connection function can be used to remove a node from a preconfigured Configuration or change the location of nodes and flexible. This feature is available only Ethercat ID Type in TwinCAT. The user can use the external Dip Switch settings of the Adapter Identification Value. For an example of using an external Dip Switch (Refer to 2.4.6.)

Ex) node 1 (Min)



Ex) node 255 (Max)

