SIEMENS

TNM® 834 Controller

Description

The Siemens TNM® 834 is a compact, embedded IoT (Internet of Things) controller bundled from a special licensed TNM-8000 and an IO-R-34 remote 34 IO module for smaller applications and plant control. Based on the TNM-8000 it includes Internet connectivity and Web serving capability providing integrated control, supervision, data logging, alarming, scheduling and network management. It streams data and rich graphical displays to a standard Web browser via an Ethernet or wireless LAN, or remotely over the Internet.

Features

The licensing model for the TNM 834 controller is simplified and features standard drivers.

- Special licensing allows 0 to 5 device licenses and increments of 1 device.
- Bundle includes one TNM-834 (TNM-8000 with special license) and one IO-R-34 module.
- Operates with Niagara 4, the latest version of the Niagara Framework®, for optimum performance in larger facilities.
- Licensed for small systems and plant control.
- Niagara 4 Supervisors can be used with TNM 834 controllers to aggregate information, including real-time data, history and alarms, to create a single and unified application.

Specifications

TNM-834

Processor	TI AM3352: 1000 MHz ARM® Cortex™-A8
	1 GB DDR3 SD RAM
	Removable micro-SD card with 4GB flash total storage/2 GB user storage
Wi-Fi (Client or WAP)	IEEE802.11a/b/g/n IEEE802.11n HT20 @ 2.4 GHz IEEE802.11n HT20/HT40 @ 5 GHz Configurable radio (Off, WAP, or Client) WPAPSK/WPA2PSK supported
	USB type A connector Back-up and restore support
	(2) Isolated RS-485 with selectable bias and termination
	(2) 10/100 MB Ethernet ports
	Secure boot
Power Supply	24 VAC/DC
Operating System	Runs Niagara 4.1 and later
	Real time clock
	Batteryless

Niagara NiCS	
accept.station.in	"*" (all)
accept.station.out	"*" (all)
accept.wb.in	"*" (all)
accept.wb.out	"*" (all)

Agency Listings	
UL Listings	UL 916, PAZX
CE	EN 61326-1, 1999/5/EC R&TTE Directive, ROHS
FCC Compliance	FCC Part 15 Subpart B, Class B
	FCC Part 15 Subpart C
cUL Listed	Canadian Standards Association C22.2 No. 205-M1983 (PAZX7)
	CCC (China)
Optional	SRRC, RSS

| Ambient Conditions	
Operating Temperature	-20°C to 60°C
Storage Temperature	-40°C to 85°C
Relative Humidity Range	5% to 95% — Non condensing
Shipping and vibration:	ASTM D4169, Assurance Level II
MTTF	10 years+

Expansion and I/O Module Combinations

Maximum Expansion Modules Supported	Maximum I/O Modules Supported
NPB-8000-LON: 4	588-692 : 16
NPB-8000-232: 4	IO-R-34 (1 included) : 8 total
NPB-8000-2X-485: 2	IO-R-16 : 16

Maximum Expansion Modules Supported	Maximum I/O Modules Supported
NPB-8000-LON: 4	588-692 : 16
NPB-8000-232: 4	IO-R-34 (1 included) : 8
NPB-8000-2X-485: 2	IO-R-16 : 16

Maximum Combinations Communication Modules

Expansion 1	Expansion 2	Expansion 3	Expansion 4
232 or LON	232 or LON	232 or LON	232 or LON
485 485	232 or LON	232 or LON	232 or LON
485 485	485 485	232 or LON	
485 485	485 485		

Siemens Industry, Inc.
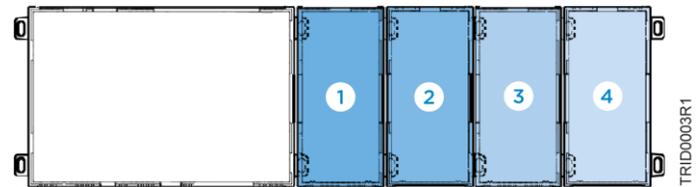
Remote IO modules

Included with the TNM-834 is licensing for an 16 IO device count.

- 1 IO-R-16 = device count 1
- 1 IO-R-34 = device count 2 (one module included)

Therefore, the maximum Expansion is

- 7 IO-R-34 ((7+1) * device count 2)
  or
- 14 IO-R-16 ((14+2)* device count 1)
  or a combination
- E.g. 4 IO-R-34 and 8 IO-R-16 (4* device count 2 + 8* device count 1 = device count 16)

Specifications

IO-R-34

Operating System	
Niagara 4	Requires Niagara 4.3 or later
Niagara AX	Requires Niagara 3.8u3 or later

I/O	
16 Universal inputs	Type 3 (10k) thermistors
	0-100kΩ
	0-10VDC
	0-20mA with external resistor
10 Relay outputs	Form A contacts 24VAC @ 0.5A rated
8 Analog outputs	0-10VDC

Power Supply	24 VAC/DC
	Can provide power to up to 4 attached IO-R-16 modules
Communication	RS-485

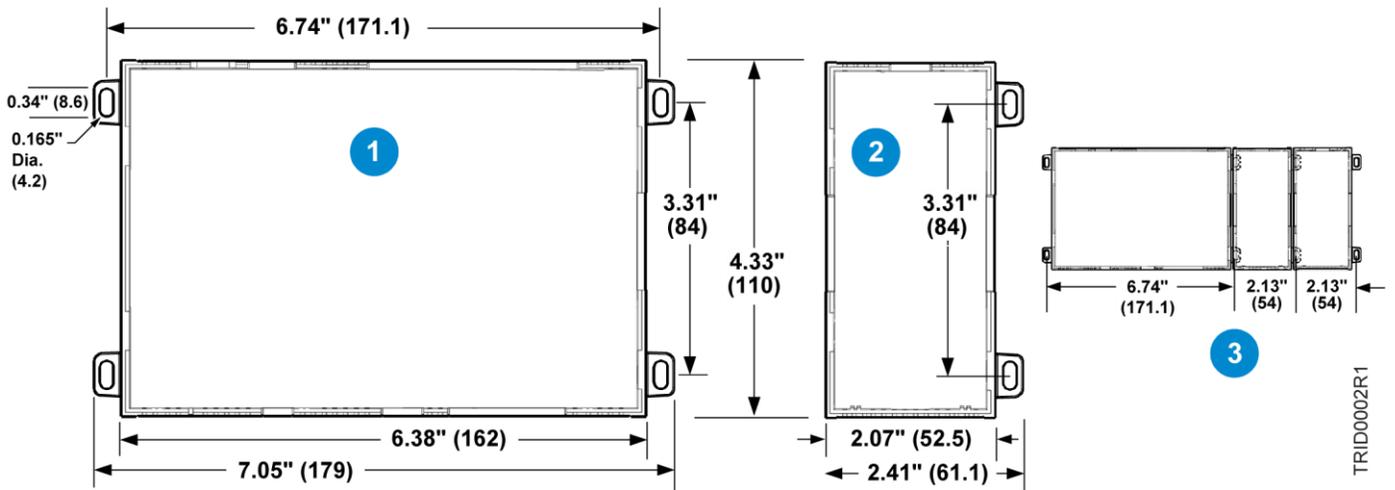| Agency Listings	
UL Listings	UL 916, C-UL
CE	EN 61326-1:2013,
FCC Compliance	FCC Part 15, Class B
RoHS	RoHS2
	China ROHS
Other	RCM; REACH; WEEE; Open Energy Management Class 2

| Ambient Conditions	
Operating Temperature	-20°C to 60°C
Storage Temperature	-40°C to 85°C
Relative Humidity Range	5% to 95% — Non condensing
Shipping and vibration:	ASTM D4169, Assurance Level II
MTTF	10 years+

Mounting and Dimensions

TNM-834

1 Controller. Allow at least 1.5 in. (38 mm) clearance around all sides and minimum of 3 in. (76 mm) at bottom for Wi-Fi antenna.

2 Expansion module. Up to four (4) can be used. See *Expansion Module and I/O Configurations*.

3 Distances between center of tabs from one unit to another unit.

6.74" (171.1)

0.34" (8.6)

0.165" Dia. (4.2)

1

3.31" (84)

4.33" (110)

6.38" (162)

7.05" (179)

2

3.31" (84)

2.07" (52.5)

2.41" (61.1)

3

6.74" (171.1)

2.13" (54)

2.13" (54)

TRID0002R1
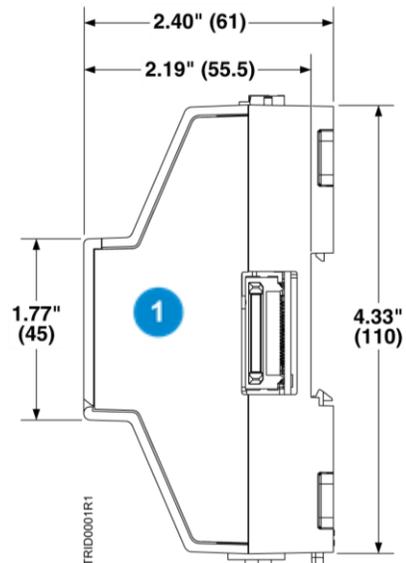
Compatible with (DIN43880) enclosures. Suitable for mounting to a panel or to an EN50022 standard 35 mm rail.

IO-R-34

2.4" (61mm)

6.8" (162mm)

niagara

3.31" (84mm)   4.5" (116mm)

7" (178mm)
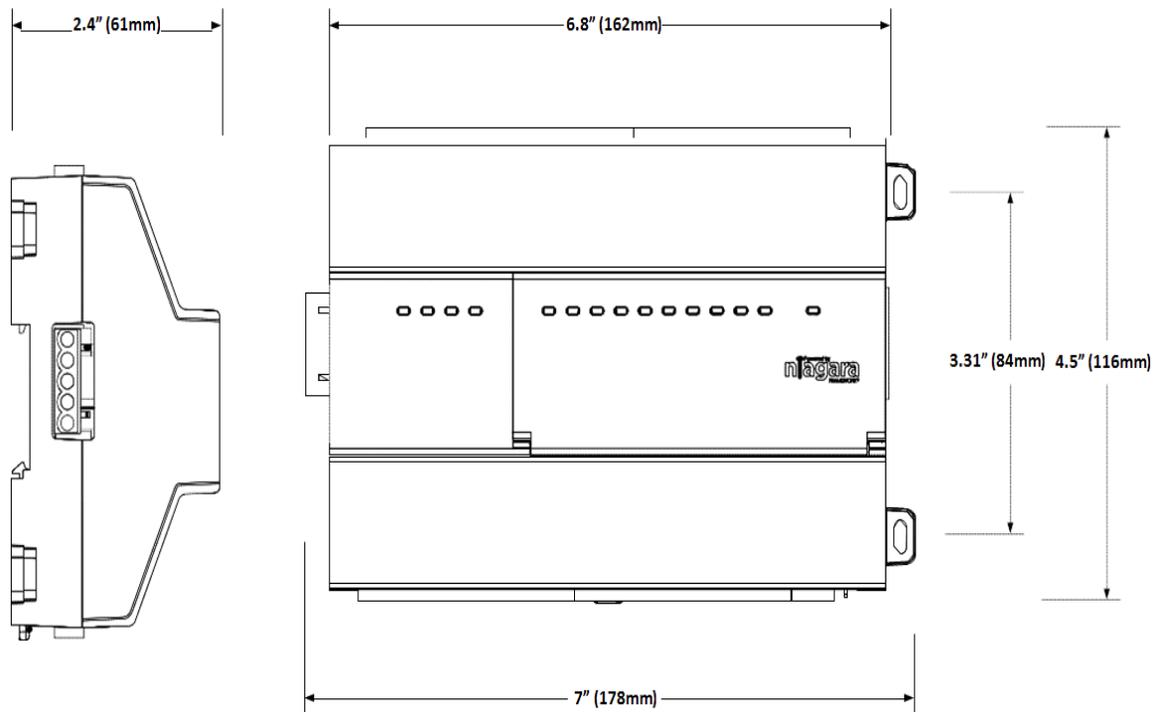
162mm (w) x 116mm (h) x 61mm (d) (6.8 in x 4.5 in x 2.4 in.

Siemens Industry, Inc.

Product Ordering Information

Description	Part Number
Base unit includes two isolated RS485 ports, two 10/100 MB Ethernet ports, USB Backup & Restore and Wi-Fi connectivity	TNM-834
Up to 0 Devices and 0 point core.	NC-8000-NC*
Up to 10 devices/500 point upgrade (can be purchased during initial licensing).	DEVICE-1
Up to 10 devices/500 point upgrade (can be purchased during initial licensing).	DEVICE-10
Up to 25 devices/1,250 point upgrade (can be purchased during initial licensing).	DEVICE-25
Up to 50 devices/2,500 point upgrade (can be purchased during initial licensing).	DEVICE-50
Up to 1 devices/50 point upgrade (can be purchased post initial licensing).	DEVICE-UP-1
Up to 10 devices/500 point upgrade (can be purchased post initial licensing).	DEVICE-UP-10
Up to 25 devices/1,250 point upgrade (can be purchased post initial licensing).	DEVICE-UP-25
Up to 50 devices/2,500 point upgrade (can be purchased post initial licensing).	DEVICE-UP-50
Enables TNM ® 8000 controller to run Niagara AX (3.8U). 3.8U Build with TNM 8000 controller support.	JACE -8000-AX
TNM 8000 controller — add on dual port RS-485 module.	NPB-8000-2X-485

Description	Part Number
TNM 8000 controller — add on single port LON FTT10A module.	NPB-8000-LON
TNM 8000 controller — add on single port RS-232 module.	NPB-8000-232
Remote IO module with 16 points. Communication using RS 485, maximum IO-R-16 modules supported: 16.	IO-R-16
Remote IO module with 34 points. Communication using RS 485, maximum IO-R-34 modules supported: 8.	IO-R-34
Remote IO module, compatible with the TNM 8000 controller. Communication using RS 485, maximum I/O supported T-IO-16-485 modules: 16.	588-692
Smart II Driver for Niagara 4	SMART2-N4
Downgrade license for Niagara AX	JACE-8000-AX
TNM-8000 Plug In power supply	WPM-8000
Universal power supply for TNM 8000 controller.	588-679
24V power supply for T-IO-16-485.	588-678
Universal power supply for T-IO-16-485.	588-679
TNM-8000 Accessory Kit	NPB-8000-KIT
TNM-8000 Expansion Module Kit	NPB-8000-OPT-KIT

*All NC-8XXX parts include a Niagara 4 license and Tridium's standard driver suite. Please see Tridium standard driver suite documentation for more information.

Your feedback is important to us. If you have comments about this document, please send them to SBT_technical.editor.us.sbt@siemens.com.