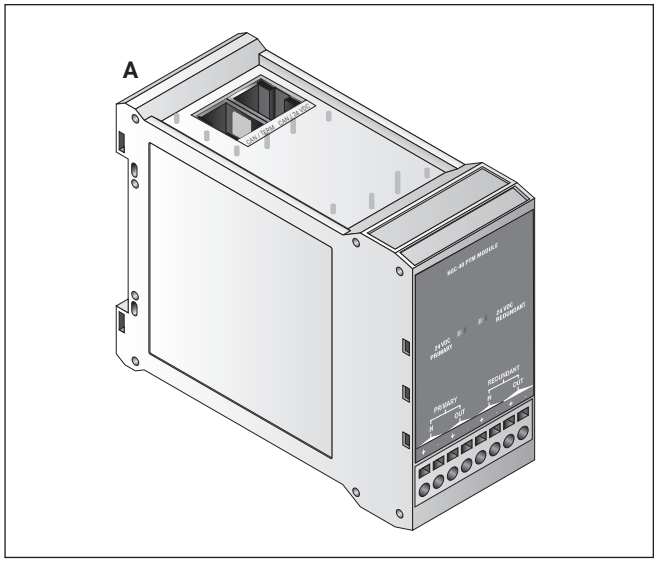
NGC-40-PTM

Power and Termination Module for use with nVent RAYCHEM NGC-40 system Installation Instructions



DESCRIPTION

The nVent RAYCHEM NGC-40-PTM accepts a primary and redundant power supply input, accepts CAN bus inputs, and provides for termination of the CAN bus. The NGC-40-PTM then distributes both power and Can bus signals to other NGC-40 modules. Each NGC-40-PTM can provide power for a maximum of 10 NGC-40 modules.

TOOLS REQUIRED

- Small flat-blade screwdriver

ADDITIONAL MATERIALS

- Custom built CAN cables with RJ-45 connections
- CAN Termination Resistor

KIT CONTENTS

Item	Qty	Description
A	1	NGC-40-PTM module

APPROVALS AND CERTIFICATIONS

Hazardous Locations

Intertek 4008717

Class I, Div. 2, Groups A,B,C,D T4
Class I, Zone 2, AEx nA IIC T4 IP20
Ex nA IIC T4 X
−40˚C ≤ Ta ≤ +65˚C

Conforms to:
FM Class Number 3600 (11/98)
FM Class Number 3611 (10/99)
ANSI/UL STD. 60079-15-2009
UL STD. 61010-1

Certified to:
CAN/CSA STD. C22.2 No. 213-M1987 (R2004)
CAN/CSA STD. C22.2 No. 61010-1:2004
EN 61010-1 (2001)
CAN/CSA STD. E60079-15:02 (R2006)

IEC Ex Markings:
IECEx ETL 17.0062x
EX ec IIC T4 Gc

ATEX Markings:
ITS17ATEX402833X
Ex II 3 G Ex ec IIC T4 Gc

Special conditions of use for IEC Ex and ATEX :

- The overall equipment is evaluated to type of protection "ec".
- For full connection details see these installation instructions.
- The equipment shall only be used in an area of not more than pollution degree 2, as defined in IEC/EN 60664-1.
- The equipment shall be installed in an enclosure that provides a minimum ingress protection of IP54 in accordance with IEC/EN 60079-0.
- Transient protection shall be provided which is set at a level not exceeding 140% of the peak rated voltage value at the supply terminals to the equipment.

⚠ WARNUNG:

This component is an electrical device that must be installed correctly to ensure proper operation and to prevent shock or fire. For technical support, call nVent at (800) 545-6258.

GENERAL

Supply voltage	24 Vdc ± 10%
Internal power consumption	1 W per NGC-40-PTM
Output current	1.5 Amps @ 24 V
Ambient operating temperature	–40ºC to 65ºC (–40ºF to 149ºF)
Ambient storage temperature	–55ºC to 75ºC (–67ºF to 167ºF)
Environment	PD2, CAT III
Max. altitude	2,000 m (6,562 ft)
Humidity	5 – 90% noncondensing
Mounting	Din Rail – 35 mm

ELECTROMAGNETIC COMPATIBILITY

Emissions	EN 61000-6-3	Emission standard for residential, commercial and light industrial environments
Immunity	EN 61000-6-2	Immunity standard for industrial environments

CAN NETWORKING PORT

Type	2-wire isolated CAN-based peer-peer network. Isolated to 300 V.
Connection	Two 8-pin RJ-45 connectors (both may be used for Input or Output connections)
Topology	Daisy chain
Length	10 m (33 ft) maximum
Quantity	Up to 10 CAN nodes per PTM module

CONNECTION TERMINALS

Wiring terminals	Cage clamp, 0.5 to 2.5 mm^2 (24 to 18 AWG).
	As the current to the modules require up to 2.05 A @ 24Vdc (20 modules–see CAN Bus connection diagrams) the minimum wire size to the module shall be 1.0 mm^2 (AWG18)
CAN networking and module power	Two RJ-45 connectors, one each IN and OUT. Provides CAN bus signals and 24 Vdc power.

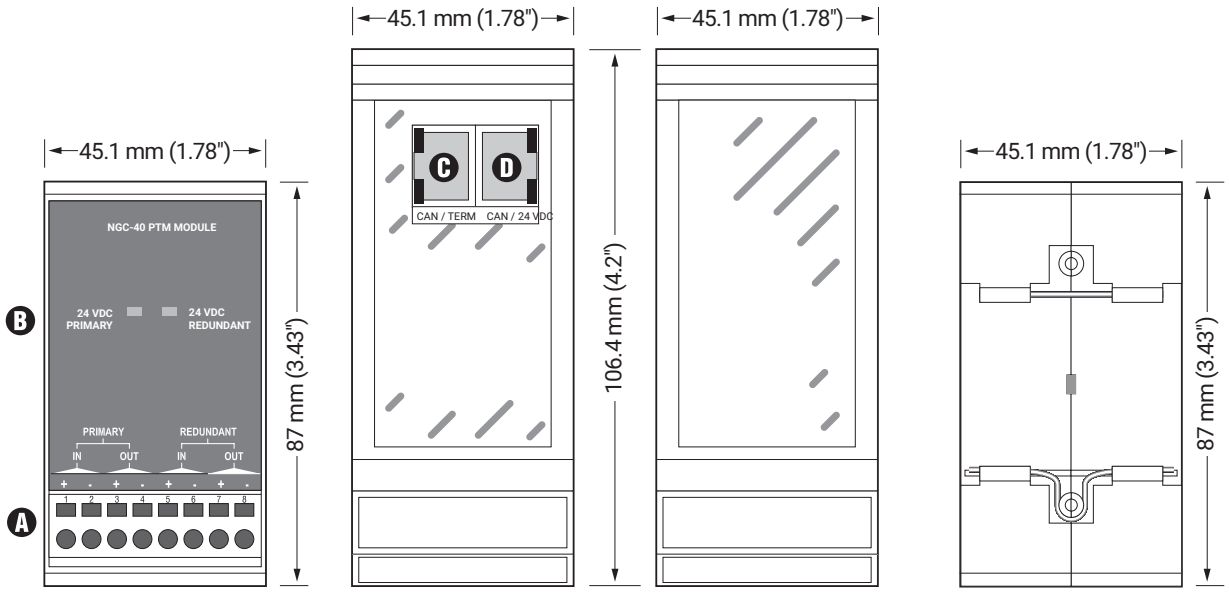
HOUSING

Size	45.1 mm (1.78 in) wide x 87 mm (3.43 in) high x 106.4 mm (4.2 in) deep

SYSTEM POWER SUPPLY REQUIREMENTS

Output voltage	24 Vdc ±10%
Approval	NRTL approved device for use in nonhazardous or hazardous locations as appropriate
Overcurrent protection	Must have an automatic disconnect upon a single fault condition

System Components



A. WIRING TERMINALS

TERMINALS	FUNCTION
1	Primary 24 Vdc In (+)
2	Primary 24 Vdc In (–)
3	Primary 24 Vdc Out (+)
4	Primary 24 Vdc Out (–)
5	Redundant 24 Vdc In (+)
6	Redundant 24 Vdc In (–)
7	Redundant 24 Vdc Out (+)
8	Redundant 24 Vdc Out (–)

B. STATUS LEDS

STATUS:

24 Vdc Primary
Off No power
Green Power on

24 Vdc Redundant
Off No power
Green Power on

C. CAN / TERM

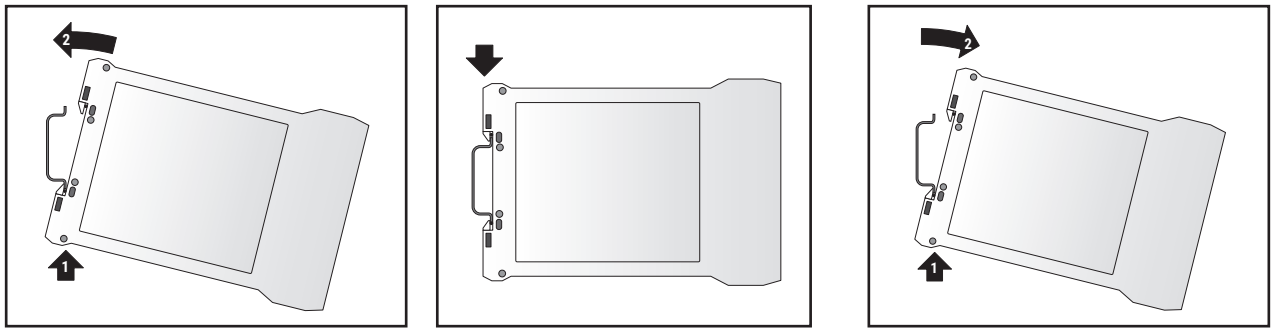
D. CAN / 24 VDC

Mounting the NGC-40-PTM

Each NGC-40-PTM mounts on a DIN 35 rail.

MOUNTING: Insert the rear bottom of the module into the DIN rail, then push up and inwards to engage the clip.

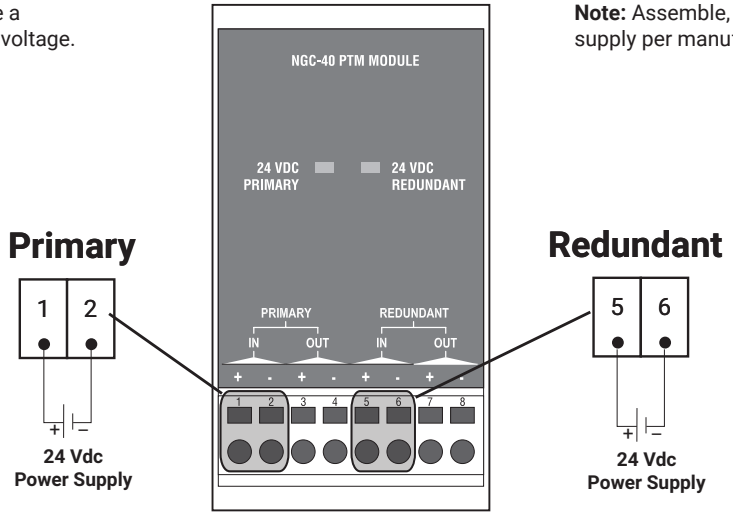
REMOVAL: Push the module upwards to disengage the clip, then rotate the module toward you.



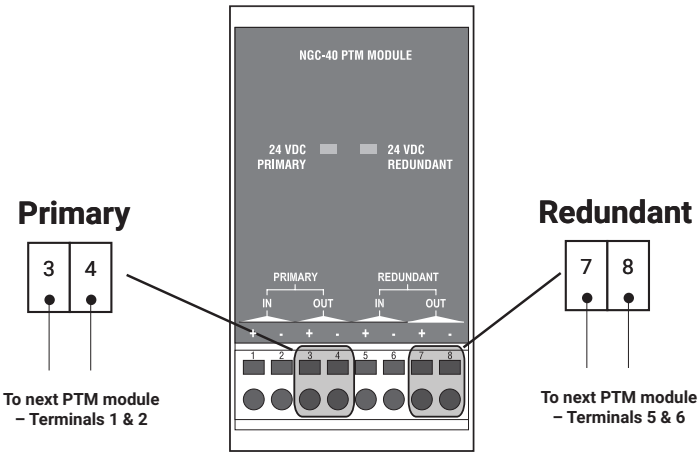
24 Vdc Connection (In)

Note: Power supply should have a means for disconnect from line voltage.

Note: Assemble, lock and mount power supply per manufacturer's instructions.



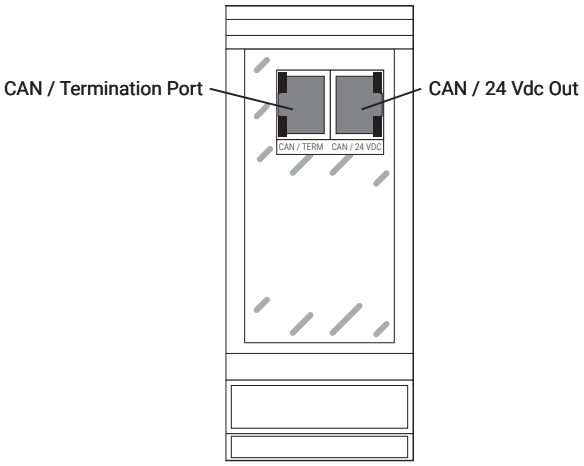
24 Vdc Connection (Out)



Note: The primary and redundant 24 Vdc outputs each support only one additional NGC-40 PTM module

CAN Networking Port

The CAN termination device must be installed in the unused port of the last module.



Provide Suitable Panel Enclosure and Determine Locations for NGC-40-PTM Assembly in Panel

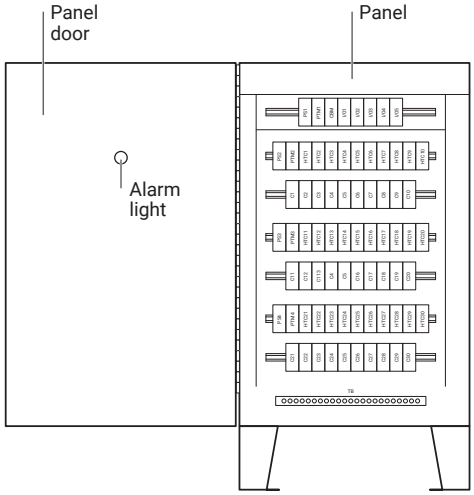
1. **Provide suitable panel enclosure**

   The NGC-40-PTM must be mounted in an enclosure to protect its electronic components. For indoor applications, use a minimum NEMA 1 enclosure (NEMA 12 recommended). For outdoor applications, use a NEMA 4 or NEMA 4X enclosure depending on the requirements.

   Note: The NGC-40-PTM is designed for operation in ambient temperatures from –40°C to 65°C (–40°F to 149°F). If the ambient temperature is outside this range, a space heater and/or cooling fan will be required in the panel.

2. **Determine locations for the NGC-40-PTM assembly in the electrical panel.**

   The NGC-40-PTM should be located in the rear of the panel. The NGC-40-PTM assembly is an electronic unit and must not be located where it will be exposed to strong magnetic fields or excessive vibration.



Alarm Relay

The NGC-40-PTM contains no user serviceable parts. Contact your nVent representative for service and an RMA number if required.

WARNING–EXPLOSION HAZARD–SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2 HAZARDOUS AND NONHAZARDOUS LOCATIONS

WARNING–EXPLOSION HAZARD–DO NOT REPLACE NGC-40-PTM UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NONHAZARDOUS

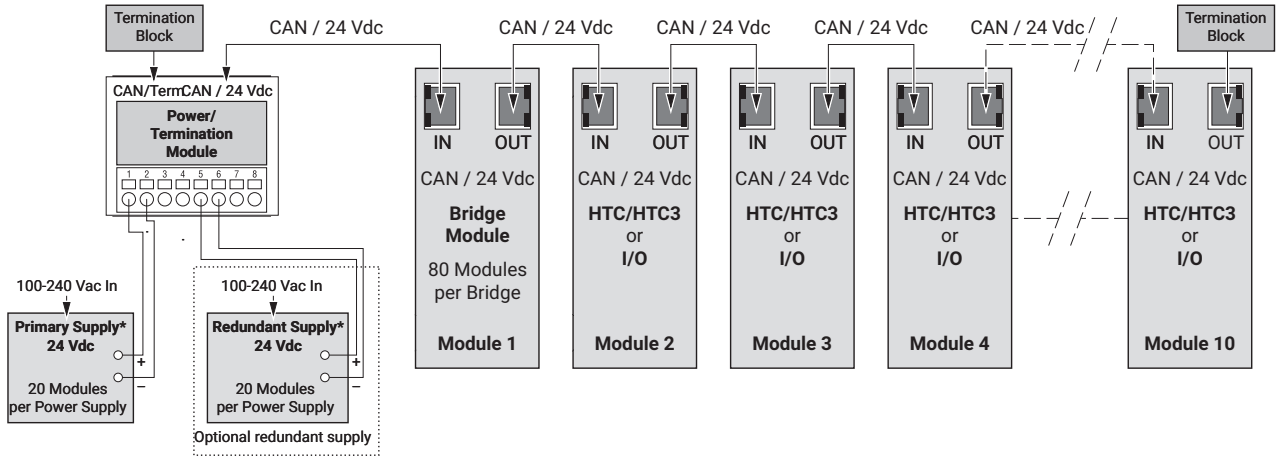
WARNING–EXPLOSION HAZARD–DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NONHAZARDOUS

AVERTISSEMENT–RISQUE D'EXPLOSION–LA SUBSTITUTION DE COMPOSANTS PEUT RENDRE CE MATÉRIEL INACCEPTABLE POUR LES EMPLACEMENTS DE CLASSE I, DIVISION 2

AVERTISSEMENT–RISQUE D'EXPLOSION–COUPER LE COURANT OU S'ASSURER QUE L'EMPLACEMENT EST DÉSIGNÉ NON DANGEREUX AVANT DE REPLACER LE NGC-40-PTM

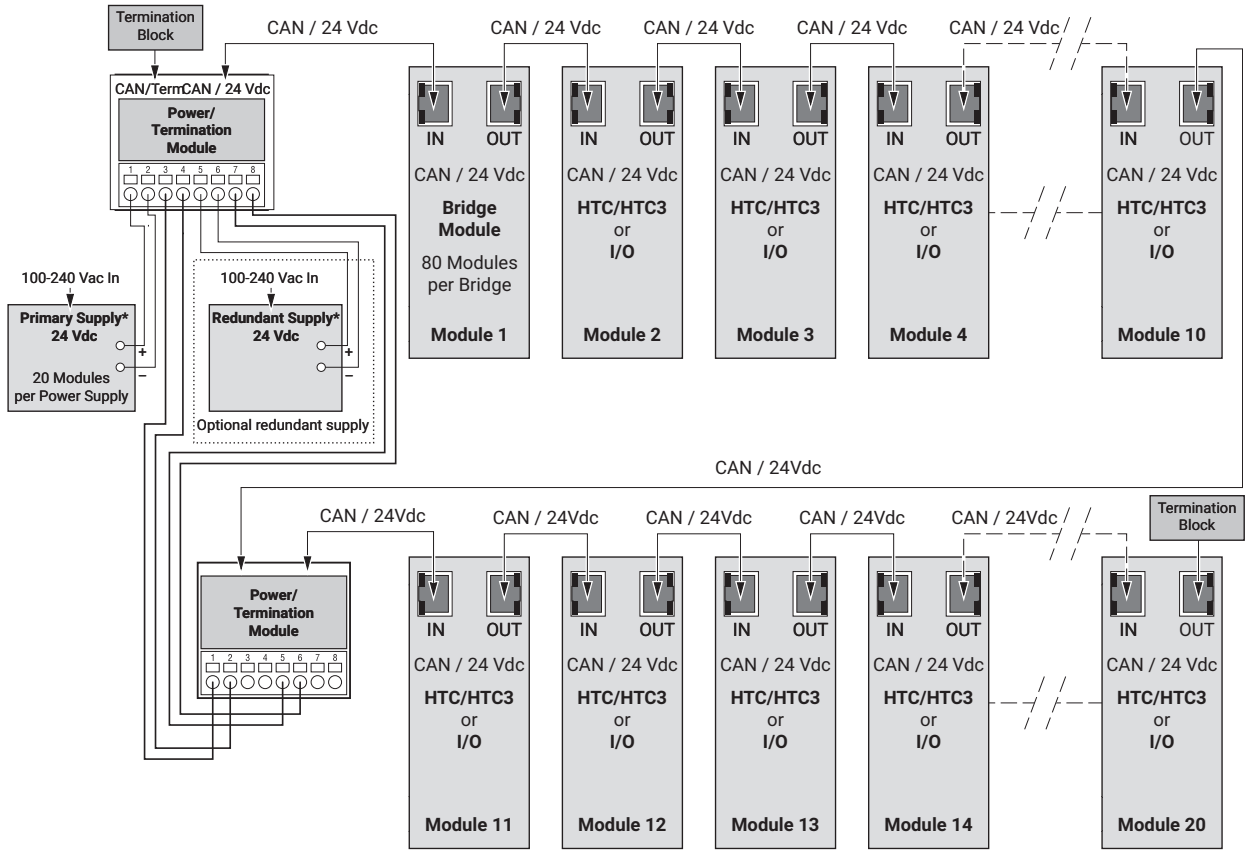
AVERTISSEMENT–RISQUE D'EXPLOSION–AVANT DE DÉCONNECTER L'EQUIPEMENT, COUPER LE COURANT OU S'ASSURER QUE L'EMPLACEMENT EST DÉSIGNÉ NON DANGEREUX

NGC-40 CAN Bus Connections for Up to 10 Modules



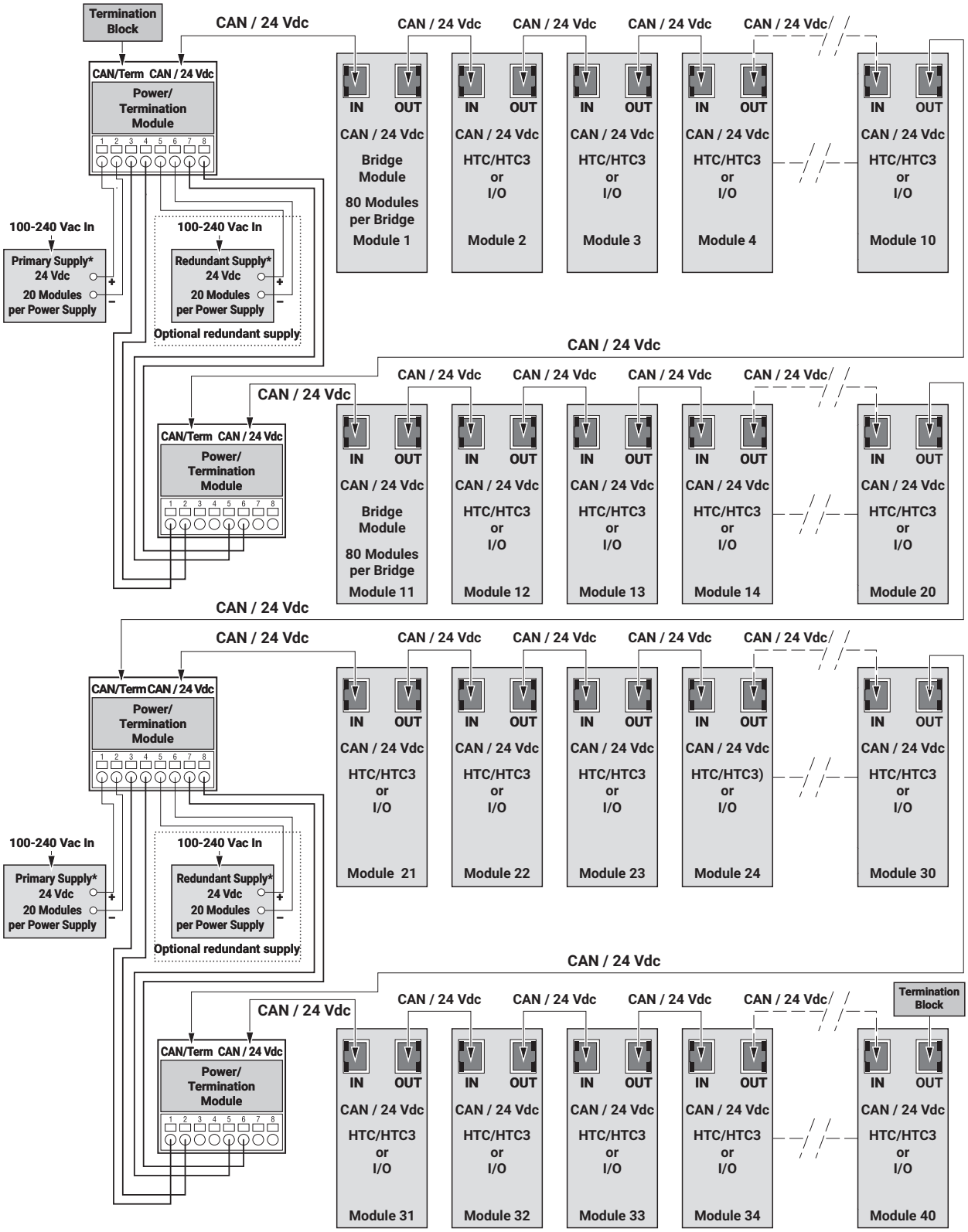
* Power supply shall have a means for disconnect from line voltage

NGC-40 CAN Bus Connections for Up to 20 Modules



* Power supply shall have a means for disconnect from line voltage

NGC-40 CAN Bus Connections for Up to 40 Modules



*** Power supply shall have a means for disconnect from line voltage**

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