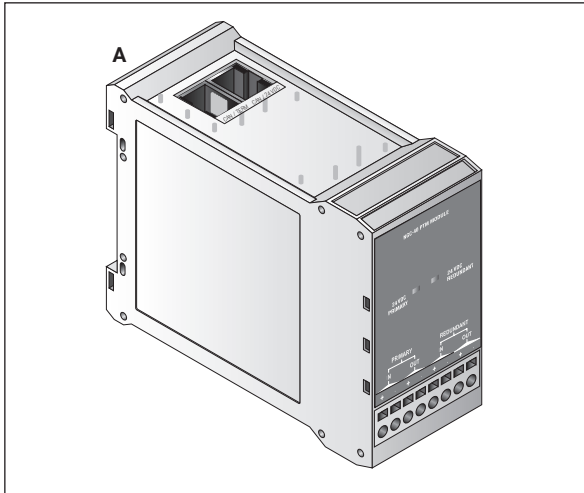


# ***Raychem***

## **NGC-40-PTM**

Power and Termination Module for use with Raychem NGC-40 System  
Installation Instructions



## APPROVALS AND CERTIFICATIONS

### Hazardous Locations



Class I, Div. 2, Groups A,B,C,D T4  
Class I, Zone 2, AEx ec IIC T4 Gc IP20  
Ex ec IIC T4 Gc  
-40°C ≤ Ta ≤ +65°C

### Conforms to:

FM STD 3600 & 3611, UL STD 121201, 60079-0,  
60079-7, 60079-15, 61010-1, 61010-2-201

### Certified to:

CSA STD C22.2# 213, 60079-0, 60079-7,  
60079-15, 61010-1, 61010-2-201

### IEC Ex Markings:

IECEx ETL 17.0062x  
Ex ec IIC T4 Gc

### ATEX Markings:

ITS17ATEX402833X  
Ex II 3 G Ex ec IIC T4 Gc



## DESCRIPTION

The 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

### 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.

## ⚠ WARNING:

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 Chemelex at (800) 545-6258.

## GENERAL

Supply voltage	24 Vdc $\pm$ 10%
Internal power consumption	1 W per NGC-40-PTM
Output current	1.5 Amps @ 24 V
Ambient operating temperature	–40°C to 65°C (–40°F to 149°F)
Ambient storage temperature	–55°C to 75°C (–67°F to 167°F)
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 <sup>2</sup> (24 to 18 AWG).  As the current to the modules require up to 2.05 A @ 24 Vdc (20 modules—see CAN Bus connection diagrams) the minimum wire size to the module shall be 1.0 mm <sup>2</sup> (AWG18)
CAN networking and module power	Two RJ-45 connectors, one each IN and OUT. Provides CAN bus signals and 24 Vdc power.

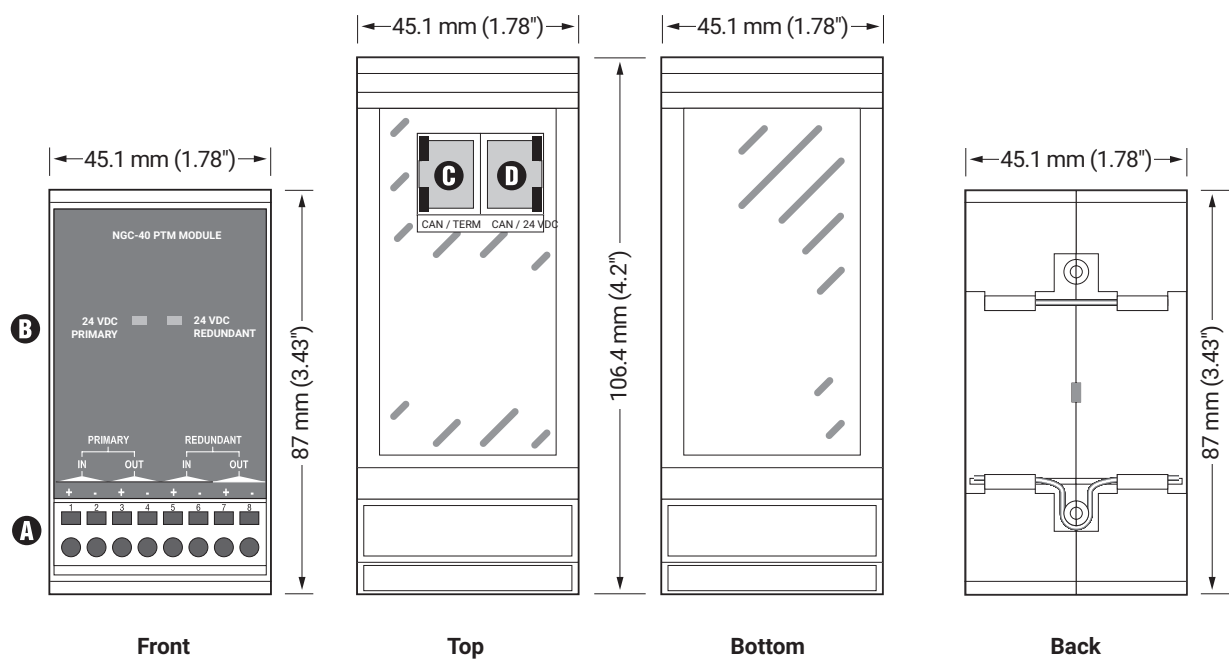
## HOUSING

Size	45.1 mm (1.78 in) wide x 87 mm (3.43 in) high x 106.4 mm (4.2 in) deep
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## SYSTEM POWER SUPPLY REQUIREMENTS

Output voltage	24 Vdc $\pm$ 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
Status: 24 Vdc Redundant	
Off	No power
Green	Power on

C. CAN / TERM

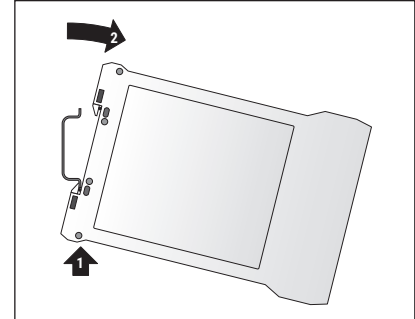
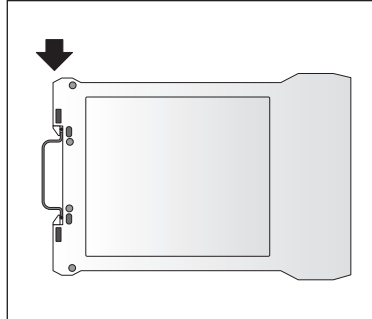
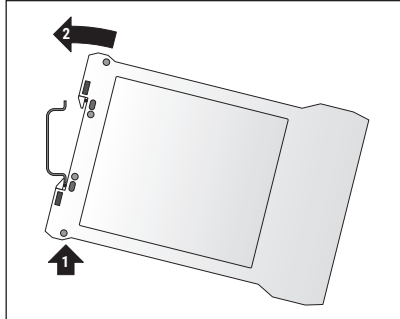
D. CAN / 24 VDC

## 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.

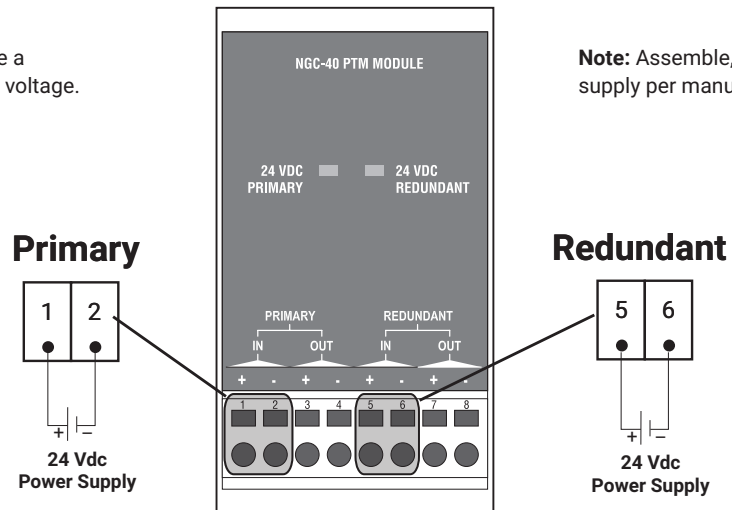
**REMOVAL:** Push the module upwards to disengage the clip, then rotate the module toward you.



## 24 Vdc Connection (In)

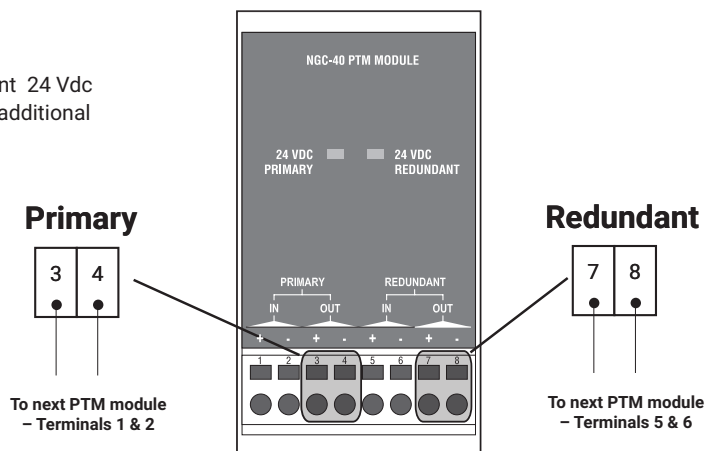
**Note:** Power supply should have a means for disconnect from line voltage.

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



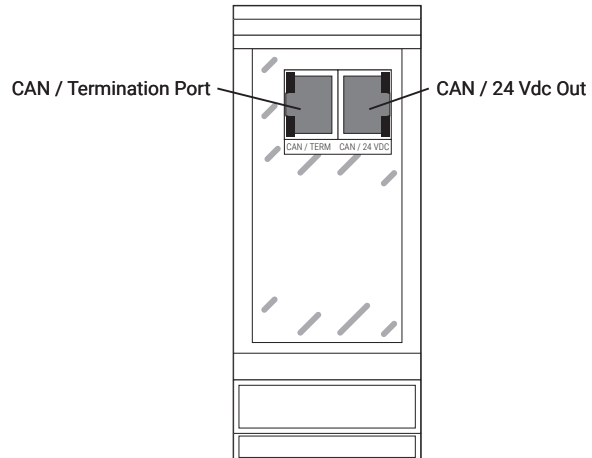
## 24 Vdc Connection (Out)

**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

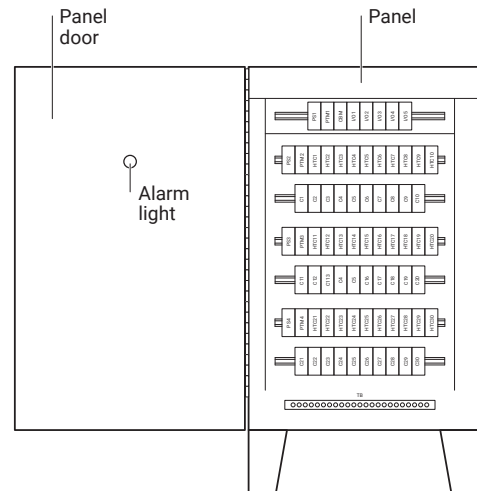
### 1. Provide suitable panel enclosure

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  $-40^{\circ}\text{C}$  to  $65^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$  to  $149^{\circ}\text{F}$ ). 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 Chemelex 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

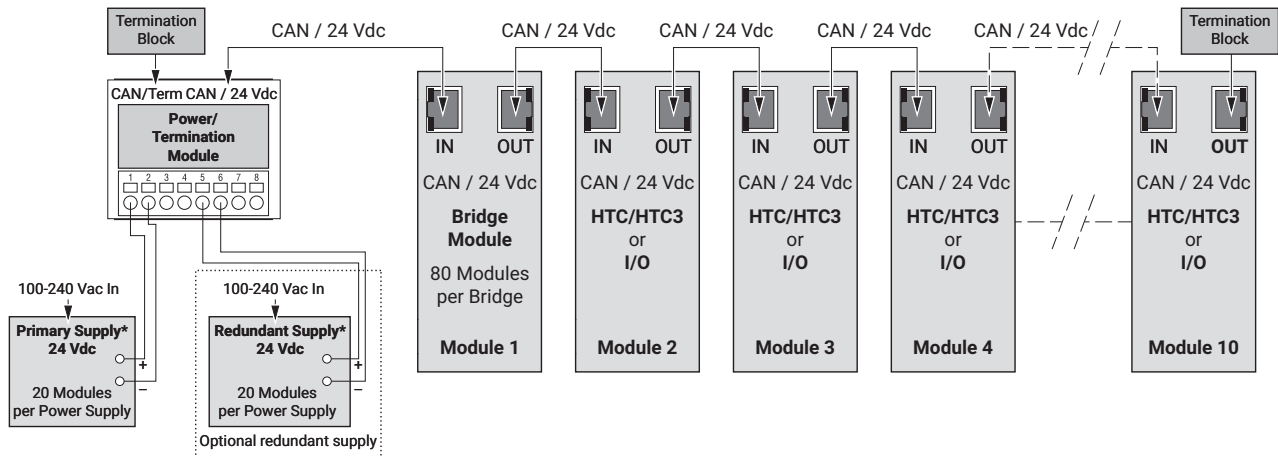
**WARNING**—EXPLOSION HAZARD—DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NONHAZARDOUS

**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

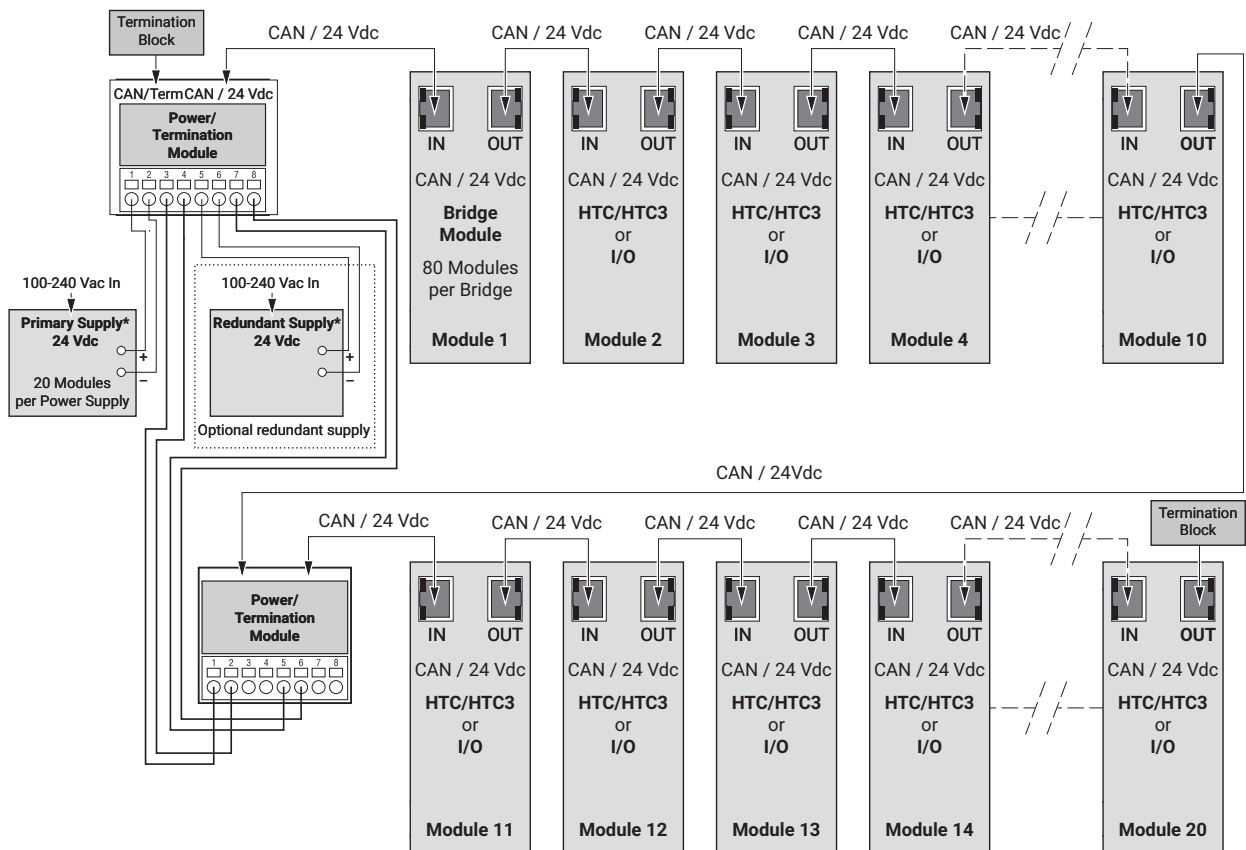
**AVERTISSEMENT**—RISQUE D'EXPLOSION—AVANT DE DÉCONNECTER L'EQUIPEMENT, COUPER LE COURANT OU S'ASSURER QUE L'EMPLACEMENT EST DÉSIGNÉ NON DANGEREUX

## NGC-40 CAN Bus Connections for Up to 10 Modules



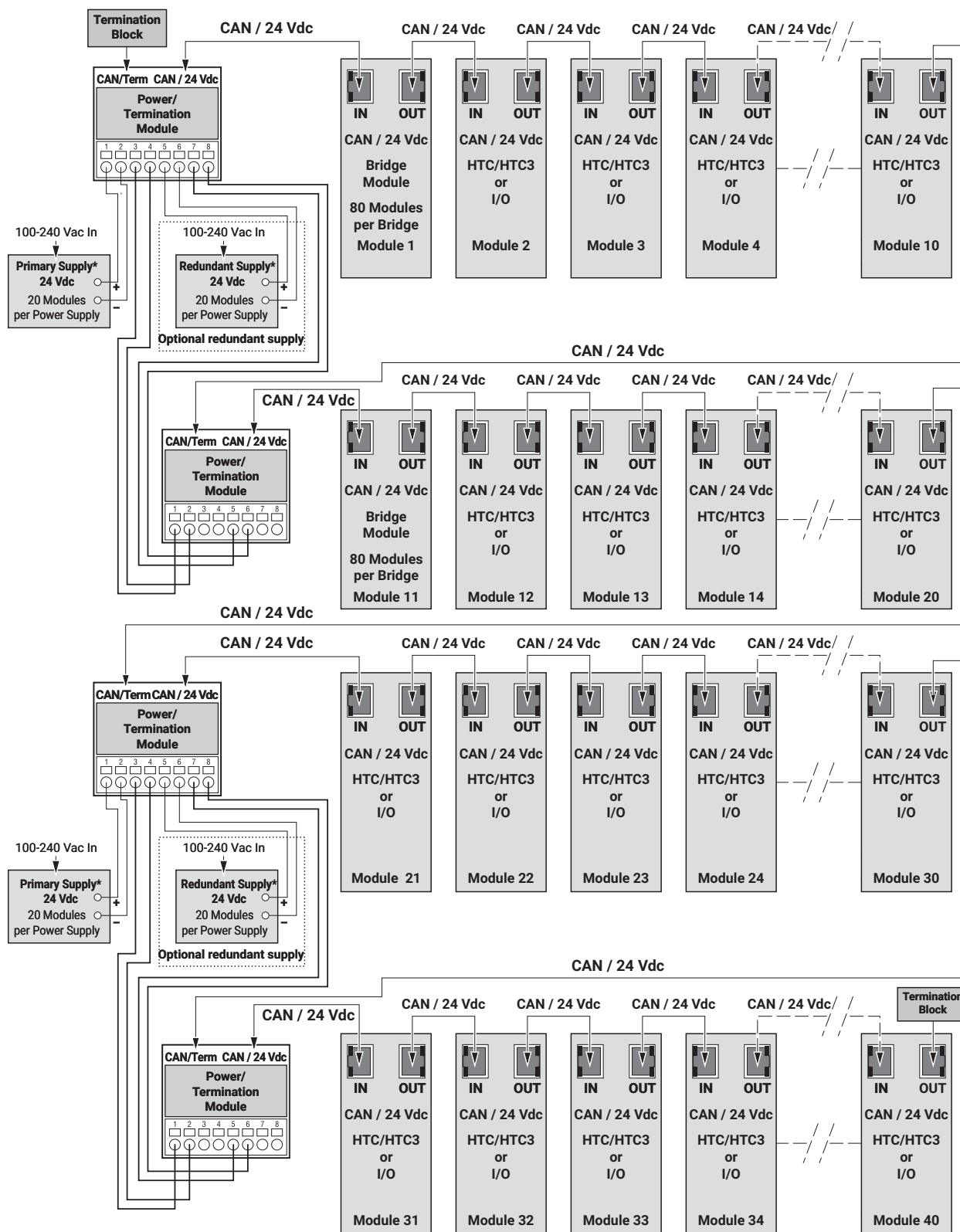
\* Power supply shall have a means for disconnect from line voltage

## NGC-40 CAN Bus Connections for Up to 20 Modules



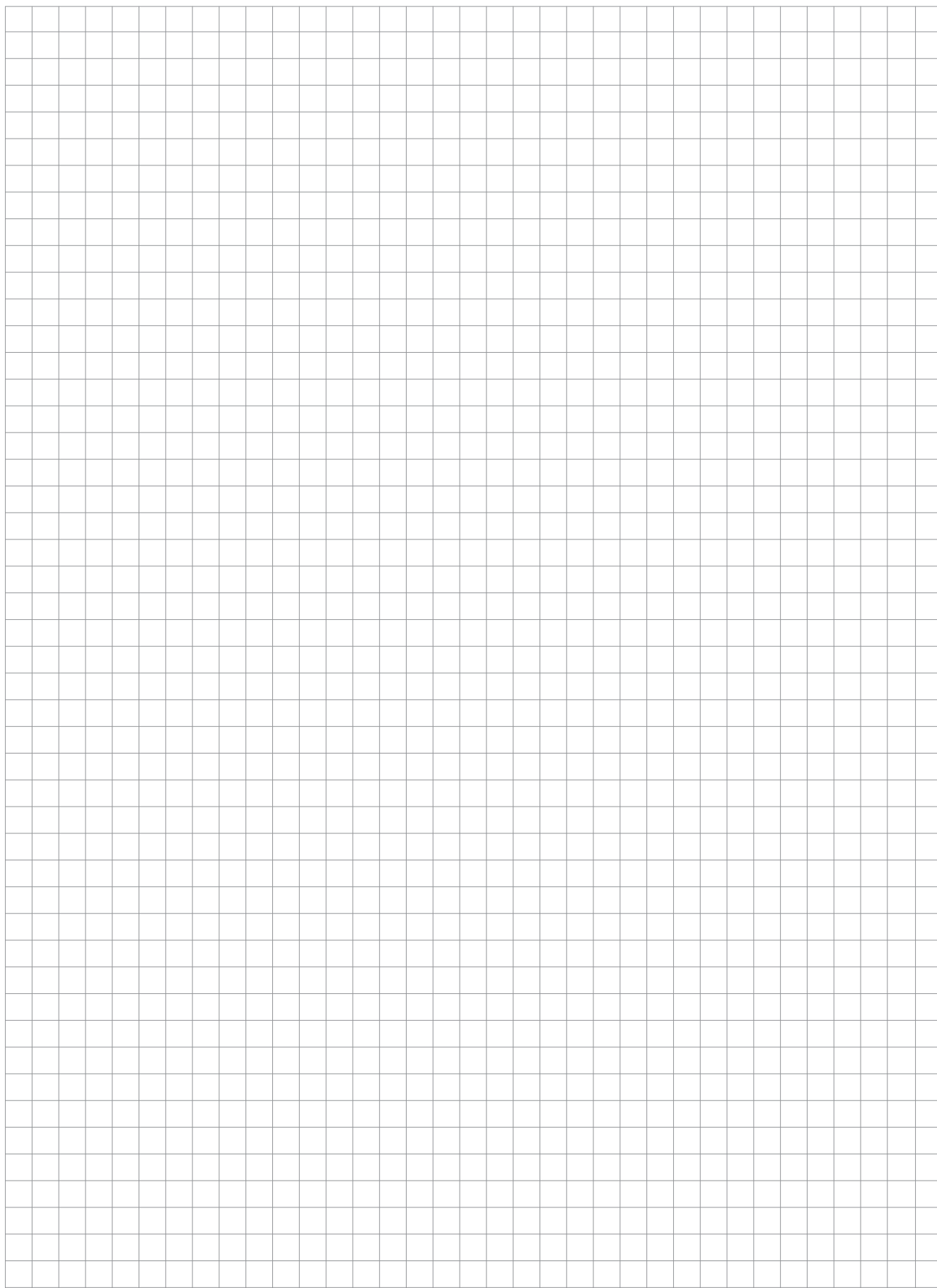
\* Power supply shall have a means for disconnect from line voltage

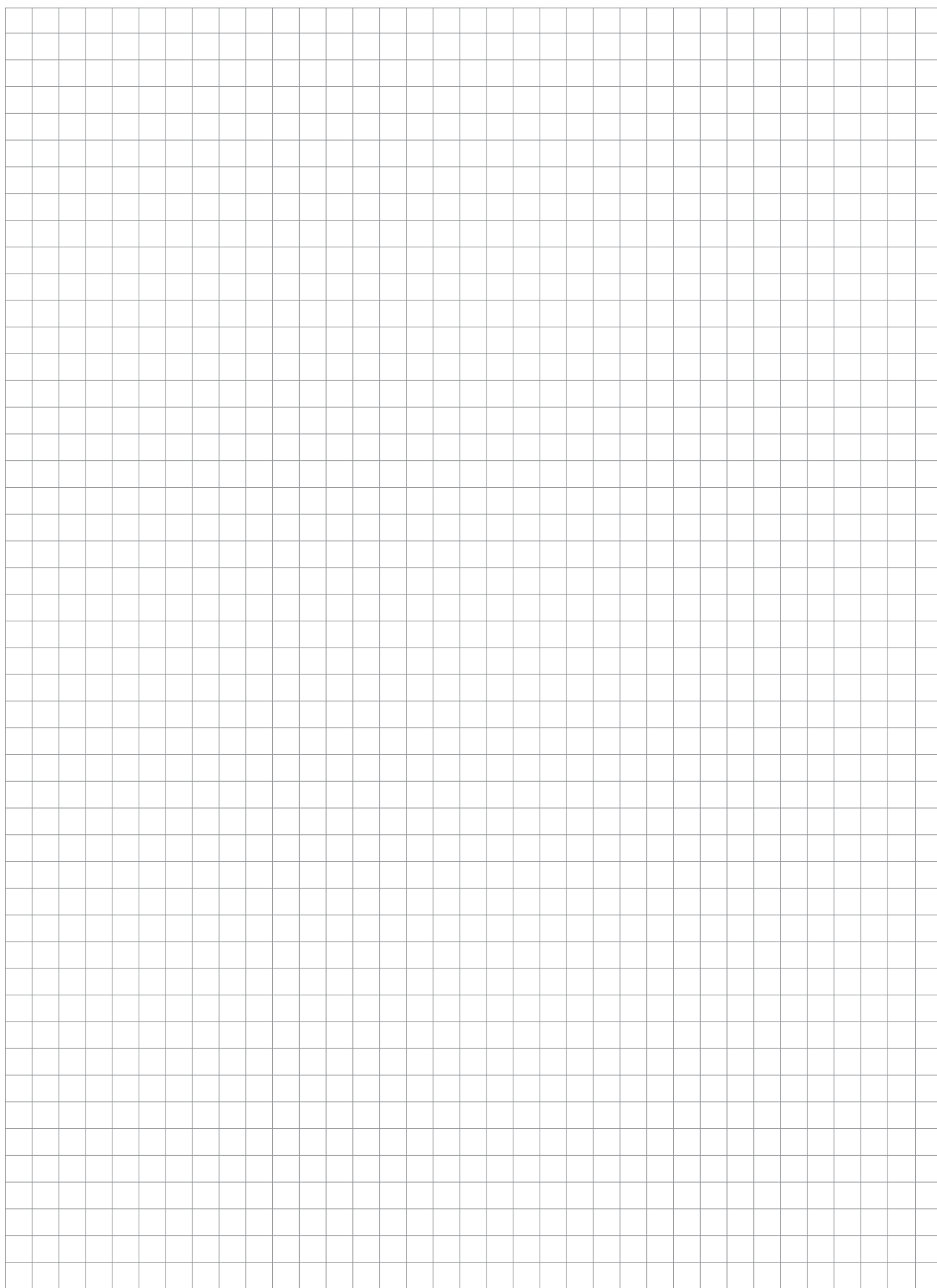
## NGC-40 CAN Bus Connections for Up to 40 Modules

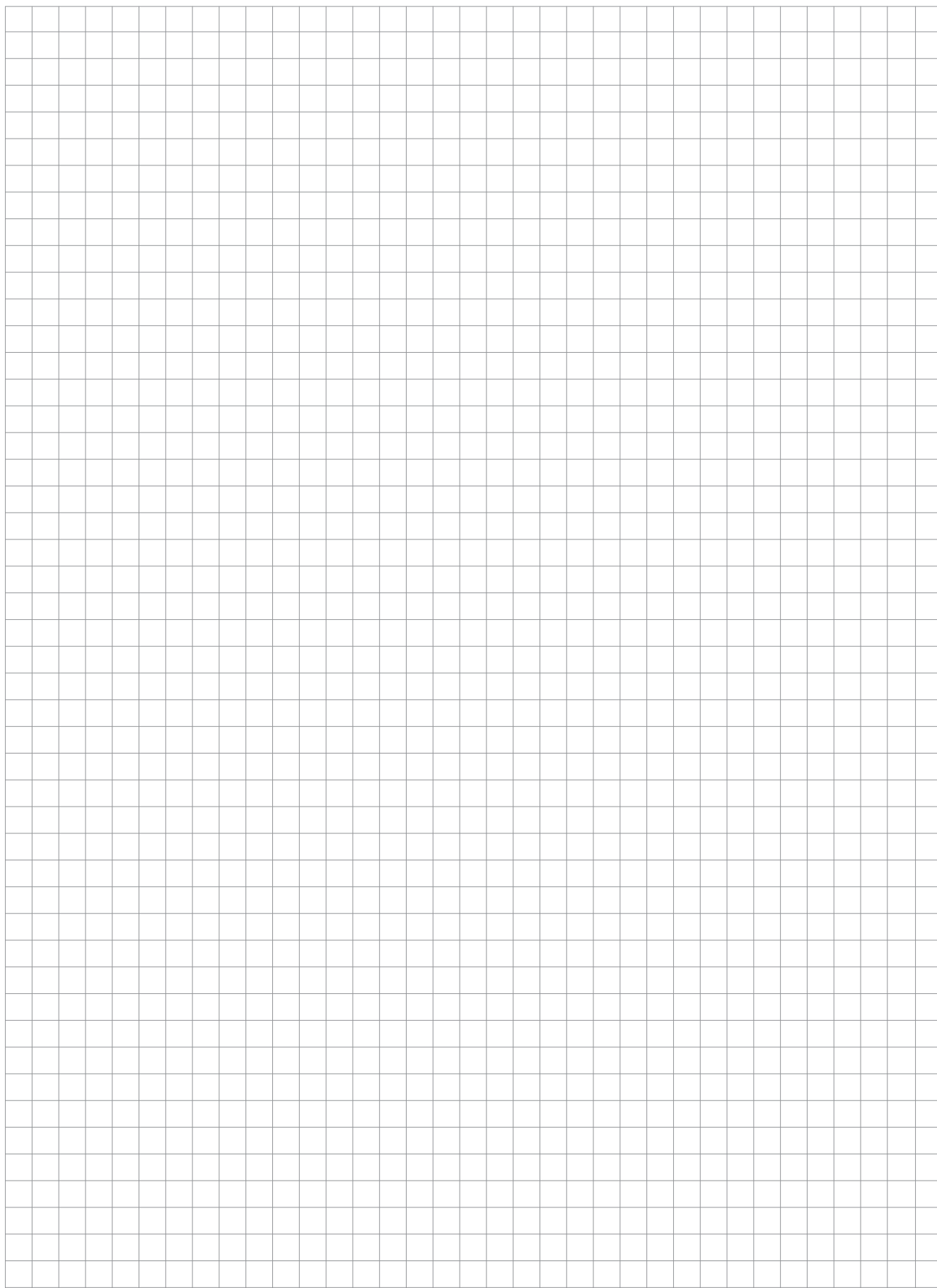


\* Power supply shall have a means for disconnect from line voltage









**North America**

Tel +1 800 545 6258  
info@chemelex.com

**Latin America**

Tel +1 713 868 4800  
info@chemelex.com

**Europe, Middle East, Africa, India**

Tel +32 16 213 511  
Fax +32 16 213 604  
info@chemelex.com

**Asia Pacific**

Tel +86 21 2412 1688  
infoAPAC@chemelex.com

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