

# 1756 ControlLogix Communication and Integrated Motion Modules

**ATTENTION:**

- Before installing, configuring, operating or maintaining this product, read this document and the documents listed in the Additional Resources section for installing, configuring, or operating equipment. Users should familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.
- Installation, adjustments, putting into service, use, assembly, disassembly, and maintenance shall be carried out by suitably trained personnel in accordance with applicable code of practice. In case of malfunction or damage, no attempts at repair should be made. The module should be returned to the manufacturer for repair. Do not dismantle the module.
- If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
- This equipment is certified for use only within the surrounding air temperature range of 0...60 °C (32...140 °F). The equipment must not be used outside of this range.
- Solid state equipment has operational characteristics differing from those of electromechanical equipment. Safety Guidelines for the Application, Installation and Maintenance of Solid State Controls, publication SGI-1.1, available from your local Rockwell Automation sales office or online at <http://www.rockwellautomation.com/literature> describes some important differences between solid state equipment and hard-wired electromechanical devices.

**IMPORTANT**

Any illustrations, charts, sample programs, and layout examples shown in this publication are intended solely for the purposes of example. Since there are many variables and requirements associated with any particular installation, Rockwell Automation does not assume responsibility or liability for actual use based upon the examples shown in this publication.



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**ACHTUNG:** Bitte installieren Sie dieses Produkt erst, nachdem Sie sich die Produktdokumentation in Ihrer jeweiligen Sprache durchgelesen haben. Gehen Sie zu <http://www.rockwellautomation.com/literature> oder nehmen Sie Kontakt mit Ihrem lokalen Vertriebsbüro bzw.

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**请注意:** 在您阅读当地语言版的文档之前不要安装本产品。请登录 <http://www.rockwellautomation.com/literature> 或者联系你的本地办公室或罗克韦尔自动化销售代表获取本文件。

## Environment and Enclosure



**ATTENTION:** This equipment is intended for use in a Pollution Degree 2 industrial environment, in overvoltage Category II applications (as defined in IEC 60664-1), at altitudes up to 2000 m (6562 ft) without derating.

This equipment is considered Group 1, Class A industrial equipment according to IEC/CISPR 11. Without appropriate precautions, there may be difficulties with electromagnetic compatibility in residential and other environments due to conducted and radiated disturbances.

This equipment is supplied as open-type equipment. It must be mounted within an enclosure that is suitably designed for those specific environmental conditions that will be present and appropriately designed to prevent personal injury resulting from accessibility to live parts. The enclosure must have suitable flame-retardant properties to prevent or minimize the spread of flame, complying with a flame spread rating of 5VA, V2, V1, V0 (or equivalent) if non-metallic. The interior of the enclosure must be accessible only by the use of a tool. Subsequent sections of this publication may contain additional information regarding specific enclosure type ratings that are required to comply with certain product safety certifications.

In addition to this publication, see the following:

- Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#), for additional installation requirements.
- NEMA 250 and IEC 60529, as applicable, for explanations of the degrees of protection provided by different types of enclosures.

## North American Hazardous Location Approval

The following information applies when operating this equipment in hazardous locations: Products marked "CL I, DIV 2, GP A, B, C, D" are suitable for use in Class I Division 2 Groups A, B, C, D, Hazardous Locations and nonhazardous locations only. Each product is supplied with markings on the rating nameplate indicating the hazardous location temperature code. When combining products within a system, the most adverse temperature code (lowest "T" number) may be used to help determine the overall temperature code of the system. Combinations of equipment in your system are subject to investigation by the local authority having jurisdiction at the time of installation.

**WARNING: EXPLOSION HAZARD**

- Do not disconnect equipment unless power has been removed or the area is known to be nonhazardous.
- Do not disconnect connections to this equipment unless power has been removed or the area is known to be nonhazardous. Secure any external connections that mate to this equipment by using screws, sliding latches, threaded connectors, or other means provided with this product.
- Substitution of components may impair suitability for Class I, Division 2.
- If this product contains batteries, they must be changed only in an area known to be nonhazardous.

Informations sur l'utilisation de cet équipement en environnements dangereux:

Les produits marqués "CL I, DIV 2, GP A, B, C, D" ne conviennent qu'à une utilisation en environnements de Classe I Division 2 Groupes A, B, C, D dangereux. Chaque produit est livré avec des marquages sur sa plaque d'identification qui indiquent le code de température pour les environnements dangereux. Lorsque plusieurs produits sont combinés dans un système, le code de température le plus défavorable (code de température le plus faible) peut être utilisé pour déterminer le code de température global du système. Les combinaisons d'équipements dans le système sont sujettes à inspection par les autorités locales qualifiées au moment de l'installation.

**WARNING: RISQUE D'EXPLOSION**

- Couper le courant ou s'assurer que l'environnement est classé non dangereux avant de débrancher l'équipement.
- Couper le courant ou s'assurer que l'environnement est classé non dangereux avant de débrancher les connecteurs. Fixer tous les connecteurs externes reliés à cet équipement à l'aide de vis, loquets coulissants, connecteurs filetés ou autres moyens fournis avec ce produit.
- La substitution de composants peut rendre cet équipement inadapté à une utilisation en environnement de Classe I, Division 2.
- S'assurer que l'environnement est classé non dangereux avant de changer les piles.

## European Hazardous Location Approval

The following applies to products marked II 3 G. Such modules:

- are Equipment Group II, Equipment Category 3, and comply with the Essential Health and Safety Requirements relating to the design and construction of such equipment given in Annex II to Directive 94/9/EC. See the EC Declaration of Conformity at <http://www.rockwellautomation.com> for details. The type of protection used is "Ex nA IIC T- or Ex nC IIC T-" according to EN 60079-15. The specific temperature code is documented in the Additional Resources section and must be verified by the installer by comparing it with the temperature code marked on the product.
- are intended for use in areas in which explosive atmospheres caused by gases, vapors, mists, or air or dust mixtures are unlikely to occur, or are likely to occur only infrequently and for short periods. Such locations correspond to Zone 2 classification according to ATEX directive 1999/92/EC.

**WARNING: Special Conditions for Safe Use:**

- This equipment must be installed in an enclosure providing at least IP54 protection when applied in Zone 2 environments.
- This equipment shall be used within its specified ratings defined by Rockwell Automation.
- Provision shall be made to prevent the rated voltage from being exceeded by transient disturbances of more than 40% when applied in Zone 2 environments.
- This equipment must be used only with ATEX certified Rockwell Automation backplanes.
- Secure any external connections that mate to this equipment by using screws, sliding latches, threaded connectors, or other means provided with this product.
- Do not disconnect equipment unless power has been removed or the area is known to be nonhazardous.

## Network Connectors and Cable

This product may contain a USB port.



**WARNING:** Local programming ports, network access ports (NAP), and USB ports are intended only for temporary use and must not be connected or disconnected unless the area is nonhazardous. Do not use the USB port in hazardous locations.

| Modules                     | Ports                     | Requirements  |
|-----------------------------|---------------------------|---|
| DH+<br>Universal remote I/O | DH+/RIO                   | Connector: Phoenix MVSTBR2.5/3-ST BK AU<br>Torque: 0.56...0.79 N-m (5...7 lb-in)<br>Cable: 0.519 mm <sup>2</sup> (20 AWG) Belden 9463 copper twin-axial                 |
|                             | Programming               | Connector: Huan Yu GCM08P050062000  |
| ControlNet                  | Network access port (NAP) | Cable: 1786-CP  |
| DeviceNet                   | DeviceNet                 | Torque: 0.56...0.79 N-m (5...7 lb-in)<br>Cable: 1485C-P1-Cxxx, wire size 0.52 mm <sup>2</sup> (20 AWG)  |
| EtherNet/IP                 | Copper Ethernet           | Connector/cable: RJ45 connector according to IEC 60603-7, 2 or 4 pair Category 5e minimum cable according to TIA 568-B.1 or Category 5 cable according to ISO/IEC 24702 |
|                             | Fiber Ethernet            | Connector/cable: LC2 connector, 100BASE-FX-compliant multimode GI fiber cable   |
|                             | AUI                       | Cable: 1756-TC02/TC15   |

## Removeable Terminal Blocks (RTB) Ratings

| Cat. No.  | Description   |
|-----------|---|
| 1756-TBCH | 0.5 N-m (4.4 lb-in)<br>Single-wire connection: 0.33...2.1 mm <sup>2</sup> (22...14 AWG) solid or stranded copper wire rated at 90 °C (194 °F), or greater, 1.2 mm (3/64 in.) insulation max<br>Double-wire connection: 0.33...1.3 mm <sup>2</sup> (22...16 AWG) solid or stranded copper wire rated at 90 °C (194 °F), or greater, 1.2 mm (3/64 in.) insulation max<br>Do not wire more than two conductors on any single terminal. |
| 1756-TBSH | 0.33...2.1 mm <sup>2</sup> (22...14 AWG) solid or stranded copper wire rated at 90 °C (194 °F), or greater, 1.2 mm (3/64 in.) insulation max<br>Do not wire more than one conductor on any single terminal.   |

## Additional Resources

To view or download product publications, go to <http://www.rockwellautomation.com/literature>. For Release Notes and other publications specific to your module, search on the catalog number of the module. To order paper copies of technical documentation, contact your local Allen-Bradley distributor or Rockwell Automation sales representative.

| Resource   | Description   |
|--|---|
| ControlNet Coax Media Planning and Installation Guide, publication <a href="#">CNET-IN002</a>            | Provides information on creating ControlNet networks using coaxial media.           |
| ControlNet Fiber Media Planning and Installation Guide, publication <a href="#">CNET-IN001</a>           | Provides information on creating ControlNet networks using fiber media.             |
| ControlLogix Communication Modules Specifications Technical Data, publication <a href="#">1756-TD003</a> | Provides specifications for ControlLogix™ communication modules.                    |
| DeviceNet Media Design and Installation Guide, publication <a href="#">DNET-UM072</a>                    | Provides information on creating DeviceNet networks.                                |
| EtherNet/IP Modules in Logix5000 Control Systems User Manual, publication <a href="#">ENET-UM001</a>     | Provides information on EtherNet/IP modules.  |
| ControlLogix Motion Modules Specifications Technical Data, publication <a href="#">1756-TD004</a>        | Provides specifications for ControlLogix motion modules.                            |
| Industrial Automation Wiring and Grounding Guidelines, publication <a href="#">1770-4.1</a>              | Provides general guidelines for installing a Rockwell Automation industrial system. |
| Product Certifications website, <a href="http://www.ab.com">http://www.ab.com</a>                        | Provides declarations of conformity, certificates, and other certification details. |

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