

ControlLogix Time Synchronization Module

Catalog Number 1756-TIME, 1756-TIMEK

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The 1756-TIME module provides accurate time synchronization on different interfaces by using Global Positioning System (GPS) technology. The 1756-TIME module can obtain time from various sources, and provide time synchronization on other devices by acting as a gateway between different time synchronization methods and standards.

Time synchronization is accomplished by using these methods, standards, and protocols:

- The ControlLogix® backplane for Coordinated System Time (CST) and Coordinated Universal Time (UTC) conversion
- Inter-Range Instrumentation Group, code B (IRIG-B) standards
- Precision Time Protocol (PTP) on Ethernet and the ControlLogix backplane
- Network Time Protocol (NTP) on Ethernet

The 1756-TIME module:

- Provides GPS position in the form of latitude, longitude, and altitude (LLA).
- Provides course and route information in the form of ground speed (knots) with heading in the form of degrees from true north.
- Operates within the ControlLogix platform. All power that is required for the operation of the module is supplied by the ControlLogix backplane.

The catalog number of the conformal coated product includes the designation 'K' in the last position before the series identifier.



ATTENTION: Read this document and the documents listed in the Additional Resources section about installation, configuration and operation of this equipment before you install, configure, operate or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.

Activities including installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice.

If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

注意: 在安装、配置、操作和维护本产品前, 请阅读本文档以及“其他资源”部分列出的有关设备安装、配置和操作的相应文档。除了所有适用规范、法律和标准的相关要求之外, 用户还必须熟悉安装和接线说明。

安装、调整、投运、使用、组装、拆卸和维护等各项操作必须由经过适当训练的专业人员按照适用的操作规范实施。

如果未按照制造商指定的方式使用该设备, 则可能会损害设备提供的保护。

ATENCIÓN: Antes de instalar, configurar, poner en funcionamiento o realizar el mantenimiento de este producto, lea este documento y los documentos listados en la sección Recursos adicionales acerca de la instalación, configuración y operación de este equipo. Los usuarios deben familiarizarse con las instrucciones de instalación y cableado y con los requisitos de todos los códigos, leyes y estándares vigentes.

El personal debidamente capacitado debe realizar las actividades relacionadas a la instalación, ajustes, puesta en servicio, uso, ensamblaje, desensamblaje y mantenimiento de conformidad con el código de práctica aplicable.

Si este equipo se usa de una manera no especificada por el fabricante, la protección provista por el equipo puede resultar afectada.

ATENÇÃO: Leia este e os demais documentos sobre instalação, configuração e operação do equipamento que estão na seção Recursos adicionais antes de instalar, configurar, operar ou manter este produto. Os usuários devem se familiarizar com as instruções de instalação e fiação além das especificações para todos os códigos, leis e normas aplicáveis.

É necessário que as atividades, incluindo instalação, ajustes, colocação em serviço, utilização, montagem, desmontagem e manutenção sejam realizadas por pessoal qualificado e especializado, de acordo com o código de prática aplicável.

Caso este equipamento seja utilizado de maneira não estabelecida pelo fabricante, a proteção fornecida pelo equipamento pode ficar prejudicada.

ВНИМАНИЕ: Перед тем как устанавливать, настраивать, эксплуатировать или обслуживать данное оборудование, прочитайте этот документ и документы, перечисленные в разделе «Дополнительные ресурсы». В этих документах изложены сведения об установке, настройке и эксплуатации данного оборудования. Пользователи обязаны ознакомиться с инструкциями по установке и прокладке соединений, а также с требованиями всех применимых норм, законов и стандартов.

Все действия, включая установку, наладку, ввод в эксплуатацию, использование, сборку, разборку и техническое обслуживание, должны выполняться обученным персоналом в соответствии с применимыми нормами и правилами.

Если оборудование используется не предусмотренным производителем образом, защита оборудования может быть нарушена.

注意: 本製品を設置、構成、稼動または保守する前に、本書および本機器の設置、設定、操作についての参考資料の該当箇所に記載されている文書に目を通してください。ユーザは、すべての該当する条例、法律、規格の要件に加えて、設置および配線の手順に習熟している必要があります。

設置調整、運転の開始、使用、組立て、解体、保守を含む諸作業は、該当する実施規則に従って訓練を受けた適切な作業員が実行する必要があります。本機器が製造メーカーにより指定されていない方法で使用されている場合、機器により提供されている保護が損なわれる恐れがあります。

ACHTUNG: Lesen Sie dieses Dokument und die im Abschnitt „Weitere Informationen“ aufgeführten Dokumente, die Informationen zu Installation, Konfiguration und Bedienung dieses Produkts enthalten, bevor Sie dieses Produkt installieren, konfigurieren, bedienen oder warten. Anwender müssen sich neben den Bestimmungen aller anwendbaren Vorschriften, Gesetze und Normen zusätzlich mit den Installations- und Verdrahtungsanweisungen vertraut machen.

Arbeiten im Rahmen der Installation, Anpassung, Inbetriebnahme, Verwendung, Montage, Demontage oder Instandhaltung dürfen nur durch ausreichend geschulte Mitarbeiter und in Übereinstimmung mit den anwendbaren Ausführungsvorschriften vorgenommen werden.

Wenn das Gerät in einer Weise verwendet wird, die vom Hersteller nicht vorgesehen ist, kann die Schutzfunktion beeinträchtigt sein.

ATTENTION : Lisez ce document et les documents listés dans la section Ressources complémentaires relatifs à l'installation, la configuration et le fonctionnement de cet équipement avant d'installer, configurer, utiliser ou entretenir ce produit. Les utilisateurs doivent se familiariser avec les instructions d'installation et de câblage en plus des exigences relatives aux codes, lois et normes en vigueur.

Les activités relatives à l'installation, le réglage, la mise en service, l'utilisation, l'assemblage, le démontage et l'entretien doivent être réalisées par des personnes formées selon le code de pratique en vigueur. Si cet équipement est utilisé d'une façon qui n'a pas été définie par le fabricant, la protection fournie par l'équipement peut être compromise.

주의: 본 제품 설치, 설정, 작동 또는 유지 보수하기 전에 본 문서를 포함하여 설치, 설정 및 작동에 관한 참고 자료 섹션의 문서들을 반드시 읽고 숙지하십시오. 사용자는 모든 관련 규정, 법규 및 표준에서 요구하는 사항에 대해 반드시 설치 및 배선 지침을 숙지해야 합니다.

설치, 조정, 가동, 사용, 조립, 분해, 유지보수 등 모든 작업은 관련 규정에 따라 적절한 교육을 받은 사용자를 통해서만 수행해야 합니다.

본 장비를 제조사가 명시하지 않은 방법으로 사용하면 장비의 보호 기능이 손상될 수 있습니다.

ATTENZIONE Prima di installare, configurare ed utilizzare il prodotto, o effettuare interventi di manutenzione su di esso, leggere il presente documento ed i documenti elencati nella sezione "Altre risorse", riguardanti l'installazione, la configurazione ed il funzionamento dell'apparecchiatura. Gli utenti devono leggere e comprendere le istruzioni di installazione e cablaggio, oltre ai requisiti previsti dalle leggi, codici e standard applicabili.

Le attività come installazione, regolazioni, utilizzo, assemblaggio, disassemblaggio e manutenzione devono essere svolte da personale adeguatamente addestrato, nel rispetto delle procedure previste.

Qualora l'apparecchio venga utilizzato con modalità diverse da quanto previsto dal produttore, la sua funzione di protezione potrebbe venire compromessa.

DİKKAT: Bu ürünün kurulumu, yapılındırılması, işletilmesi veya bakımı öncesinde bu dokümanı ve bu ekipmanın kurulumu, yapılındırılması ve işletimi ile ilgili ilave Kaynaklar bölümünde yer listelenmiş dokümanları okuyun. Kullanıcılar yürürlükteki tüm yönetmelikler, yasalar ve standartların gereksinimlerine ek olarak kurulum ve kablolama talimatlarını da öğrenmek zorundadır.

Kurulum, ayarlama, hizmete alma, kullanma, parçaları birleştirme, parçaları sökme ve bakım gibi aktiviteler sadece uygun eğitimleri almış kişiler tarafından yürürlükteki uygulama yönetmeliklerine uygun şekilde yapılabilir.

Bu ekipman üretici tarafından belirlenmiş amacın dışında kullanılırsa, ekipman tarafından sağlanan koruma bozulabilir.

注意事項: 在安装、設定、操作或維護本產品前, 請先閱讀此文件以及列於「其他資源」章節中有關安裝、設定與操作此設備的文件。使用者必須熟悉安裝和配線指示, 並符合所有法規、法律和標準要求。

包括安裝、調整、交付使用、使用、組裝、拆卸和維護等動作都必須交由已經過適當訓練的人員進行, 以符合適用的實作法規。

如果將設備用於非製造商指定的用途時, 可能會造成設備所提供的保護功能受損。

POZOR: Než začnete instalovat, konfigurujete či provozovat tento výrobek nebo provádět jeho údržbu, přečtěte si tento dokument a dokumenty uvedené v části Dodatečné zdroje ohledně instalace, konfigurace a provozu tohoto zařízení. Uživatelé se musejí vedle požadavků všech relevantních vyhlášek, zákonů a norem nutně seznámit také s pokyny pro instalaci a elektrické zapojení.

Činnosti zahrnující instalaci, nastavení, uvedení do provozu, užívání, montáž, demontáž a údržbu musí vykonávat vhodně proškolený personál v souladu s příslušnými prováděcími předpisy.

Pokud se toto zařízení používá způsobem neodpovídajícím specifikaci výrobce, může být narušena ochrana, kterou toto zařízení poskytuje.

UWAGA: Przed instalacją, konfiguracją, użytkowaniem lub konserwacją tego produktu należy przeczytać niniejszy dokument oraz wszystkie dokumenty w sekcji Dodatkowe źródła omawiające instalację, konfigurację i procedury użytkowania tego urządzenia. Użytkownicy mają obowiązek zapoznać się z instrukcjami dotyczącymi instalacji oraz oprzewodowania, jak również z obowiązującymi kodeksami, prawem i normami.

Działania obejmujące instalację, regulację, przekazanie do użytkowania, użytkowanie, montaż, demontaż oraz konserwację muszą być wykonywane przez odpowiednio przeszkolony personel zgodnie z obowiązującym kodeksem postępowania.

Jeśli urządzenie jest użytkowane w sposób inny niż określony przez producenta, zabezpieczenie zapewniane przez urządzenie może zostać ograniczone.

OBST! Läs detta dokument samt dokumentet, som står listat i avsnittet Övriga resurser, om installation, konfiguration och drift av denna utrustning innan du installerar, konfigurerar eller börjar använda eller utföra underhållsarbete på produkten. Användare måste bekanta sig med instruktioner för installation och kabeldragning, förutom krav enligt gällande koder, lagar och standarder.

Åtgärder som installation, justering, service, användning, montering, demontering och underhållsarbete måste utföras av personal med lämplig utbildning enligt lämpligt bruk.

Om denna utrustning används på ett sätt som inte anges av tillverkaren kan det hända att utrustningens skyddsanordningar försätts ur funktion.

LET OP: Lees dit document en de documenten die genoemd worden in de paragraaf Aanvullende informatie over de installatie, configuratie en bediening van deze apparatuur voordat u dit product installeert, configureert, bedient of onderhoudt. Gebruikers moeten zich vertrouwd maken met de installatie en de bedringsinstructies, naast de vereisten van alle toepasselijke regels, wetten en normen.

Activiteiten zoals het installeren, afstellen, in gebruik stellen, gebruiken, monteren, demonteren en het uitvoeren van onderhoud mogen uitsluitend worden uitgevoerd door hiervoor opgeleid personeel en in overeenstemming met de geldende praktijkregels.

Indien de apparatuur wordt gebruikt op een wijze die niet is gespecificeerd door de fabrikant, dan bestaat het gevaar dat de beveiliging van de apparatuur niet goed werkt.

**ATTENTION:**

- 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 that is not specified by the manufacturer, the protection that is 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) in a series C chassis and 0...50 °C (32...122 °F) in a Series B chassis.
- Solid-state equipment has operational characteristics that differ from those characteristics of electromechanical equipment. Safety Guidelines for the Application, Installation, and Maintenance of Solid-state Controls, publication [SGL-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.

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 not intended for use in residential environments and may not provide adequate protection to radio communication services in such environments.

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 or be approved for the application 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 more installation requirements
- NEMA Standard 250 and EN/IEC 60529, as applicable, for explanations of the degrees of protection provided by enclosures.



ATTENTION: This equipment is sensitive to electrostatic discharge, which can cause internal damage and affect normal operation. Follow these guidelines when you handle this equipment:

- Touch a grounded object to discharge potential static.
- Wear an approved grounding wriststrap.
- Do not touch connectors or pins on component boards.
- Do not touch circuit components inside the equipment.
- Use a static-safe workstation, if available.
- Store the equipment in appropriate static-safe packaging when not in use.

**ATTENTION:**

- Read this document and the documents that are listed in the Additional Resources section about installation, configuration, and operation of this equipment before you install, configure, operate, or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.
- Activities including installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to 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.
- This equipment is certified for use only within the surrounding air temperature range of: 0...+50 °C (+32...+122 °F) in a series B chassis and 0...+60 °C (+32...+140 °F) in a series C chassis. The equipment must not be used outside of this range.
- Use only a soft dry anti-static cloth to wipe down equipment. Do not use any cleaning agents.
- Use supply wires suitable for 30 °C (86 °F) above surrounding ambient.

Required System Components

These system components are the required to use the 1756-TIME module.

- Install in a ControlLogix chassis, series B, or C.
- Set the IP address using BOOTP server or RSLinx® 2.53 or later.
- Configure in RSLogix 5000® version 18 or later.
- Configure in Studio 5000 Logix Designer® application version 20 or later.
- BNC connector and cable to connect to the IRIG-B network
- GPS antenna
- GPS SMA connector and cable

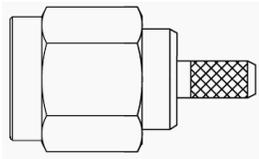
Parts List

The ControlLogix 1756-TIME synchronization modules are shipped with the following items. This module requires an Ethernet RJ45 connector. Ethernet cable is not shipped with the product.

- GPS antenna



- GPS SMA connector with cable, connect the GPS bullet antenna to this connector.



1756-TIME Module Dimensions and Connections

Figure 1 - Module Dimensions

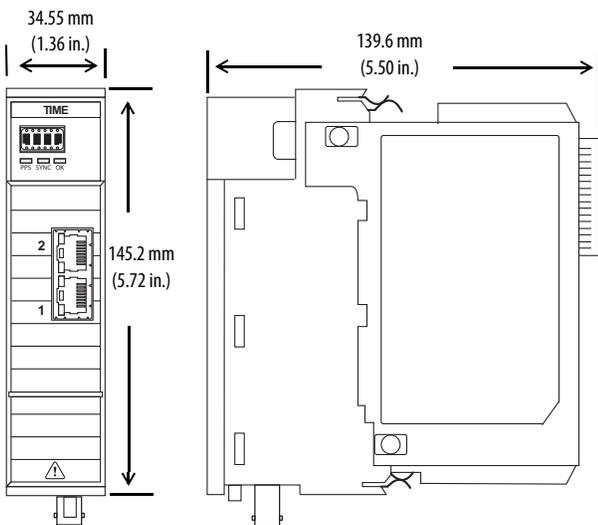
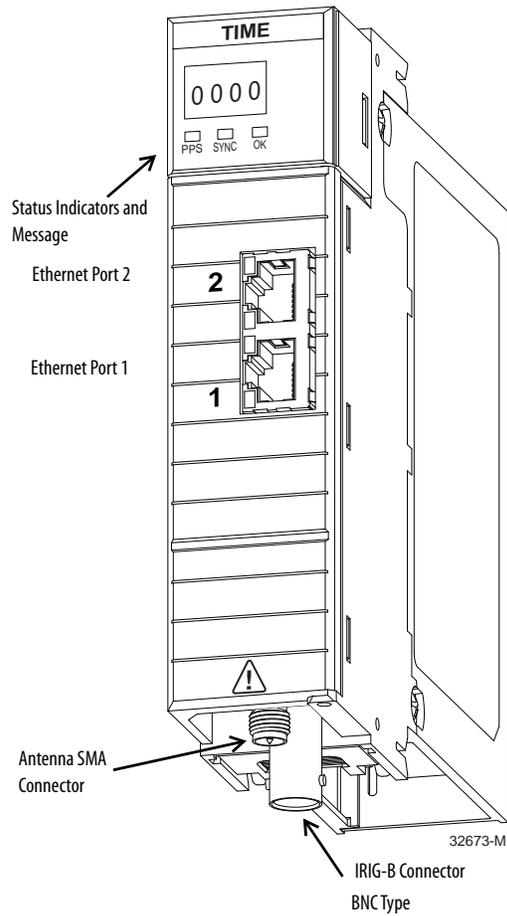


Figure 2 - Module Connections



Factory Defaults

If the module fails or becomes inoperable, the module reboots with factory-loaded boot software. The display informs you of the error and suggests a method to fix the error. If there is a firmware error, use the ControlFLASH™ software to restore the module to a working condition.

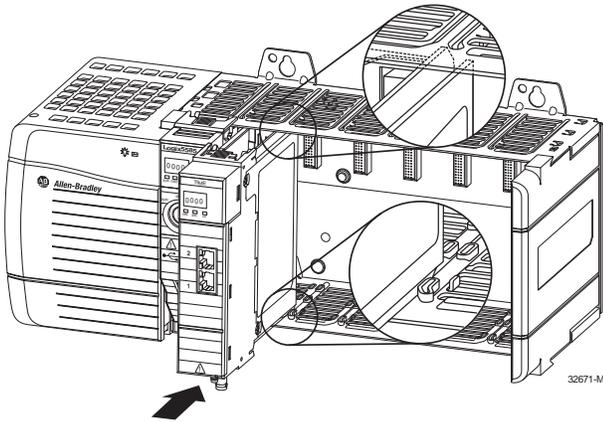
Ethernet Address, MAC ID

The module has a BOOTP address that is enabled when shipped. You can set another address via a BOOTP server. Use BOOTP to set the initial IP address for the 1756-TIME module. The module comes from the factory with BOOTP enabled.

Install the Module

Follow these instructions to install the module into the chassis.

1. Align the circuit board with top and bottom guides in the chassis.



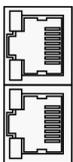
2. Slide the module into the chassis.

Make sure that the module backplane connector properly connects to the chassis backplane. You hear a click when the tabs connect. The module is properly installed when it is flush with the power supply or other installed modules.

Connect to an EtherNet/IP Network

On the front of the module, there are two Ethernet RJ45 connections.

RJ45 Ethernet Connection



Ethernet Port 2

Ethernet Port 1

Install the GPS Antenna

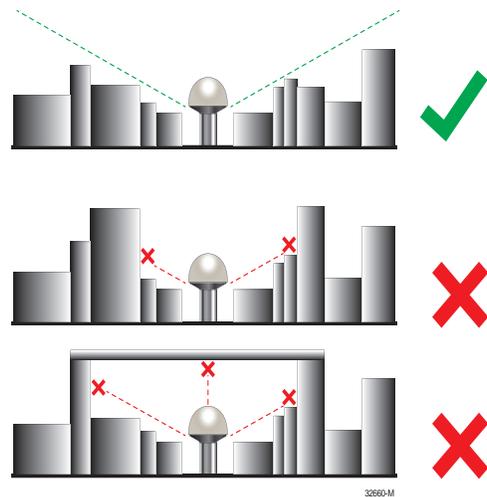
The GPS antenna is connected to the module via an SMA connector.



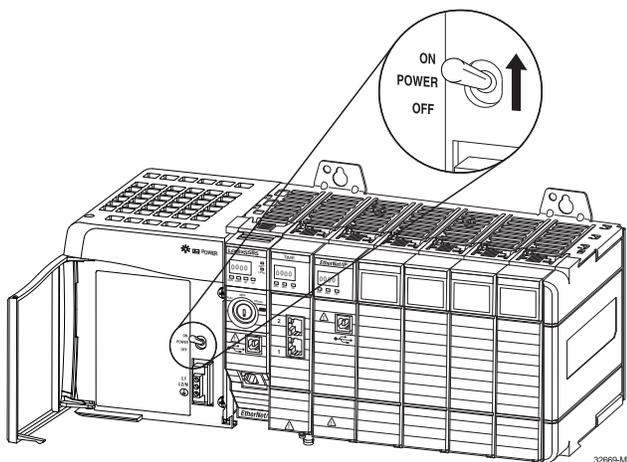
Install the GPS bullet antenna with a clear view of the sky (nothing to obstruct the view of the antenna to the sky).

IMPORTANT

Do not install the antenna where objects can obstruct the view of the antenna to the sky. If an antenna is installed with a limited view of the sky, the GPS receiver may obtain a low satellite lock count or the receiver may not be able to obtain a lock at all. A limited view of the sky can cause inaccurate time synchronization.



Apply Power



Confirm Installation

Once you apply power to the module, it goes through a series of status indicators. The module is ready for use when the status indicators display 'OK' green.

Status Indicators

The 1756-TIME module provides three status indicators on the display.

Status Indicators	Description
PPS	This indicator is toggled every second for 100 ms at the exact PPS. Green = the module is locked on the time source. Red = the module is not locked on the time source. When the module is set to be an IRIG-IN or slave clock, this indicator is toggled every time a reference frame is received.
SYNC	Green = the module is locked on the time source. Red = the module is not locked on the time source.
OK	Green = the module has started successfully. Red = the module has a hardware fault.

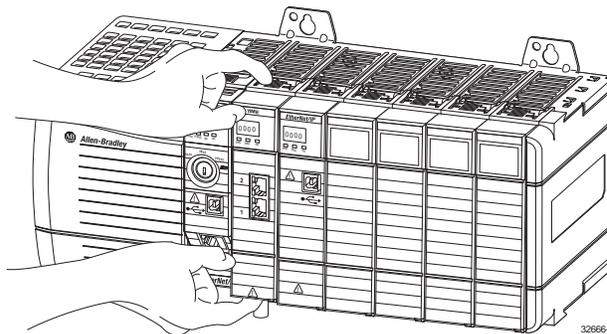
Configure the Module

For complete module configuration information, see ControlLogix Time Synchronization Module - Series B User Manual, publication [1756-UM542](#).

Remove the Module

Follow these instructions to remove the module from the chassis.

1. To remove the module, use the tabs on the top and bottom of the module.
2. Press down on the tabs while gliding the module out of the chassis.



Conformal Coating

A conformal coating solution is offered on select ControlLogix products. Conformal coating helps protect the assembly by providing a layer of protection against contaminants and humidity to extend product life in harsh, corrosive environments.

Conformally coated products have a 'K' suffix at the end of the catalog number, such as 1756-A4K. Conformally coated, Allen-Bradley® products meet or exceed these requirements:

- ANSI/ISA 71.04.2013 G3 Environment (10-year exposure)
- IEC 61086-3-1 Class 2
- IPC-CC-830
- MIL-I-46058C
- EN600068-2-52 salt mist test, severity level 3

The most current list of conformally coated products can be found by contacting your local Allen-Bradley distributor, sales office, or at this location: <http://www.ab.com/en/epub/catalogs/12762/2181376/2416247/360807/ControlLogix-System.html>

The ControlLogix-XT™ products include control and communication system components that are conformally coated to extend product life in harsh, corrosive environments:

- The standard ControlLogix system can withstand temperature ranges from 0...+60 °C (-33...+140 °F).
- When used independently, the ControlLogix-XT system can withstand temperature ranges from -25...+70 °C (-13...+158 °F).

Specifications

Attribute	1756-TIME, 1756-TIMEK
Temperature, operating IEC 60068-2-1 (Test Ad, Operating Cold) IEC 60068-2-2 (Test Bd, Operating Dry Heat) IEC 60068-2-14 (Test Nb, Operating Thermal Shock)	0...+50 °C (+32...+122 °F) in a Series B Chassis 0...+60 °C (+32...+140 °F) in a Series C Chassis
Temperature, surrounding air, max	+50 °C (+122 °F) in a Series B Chassis +60 °C (+140 °F) in a Series C Chassis
Temperature, nonoperating IEC 60068-2-1 (Test Ad, Operating Cold) IEC 60068-2-2 (Test Bd, Operating Dry Heat) IEC 60068-2-14 (Test Nb, Operating Thermal Shock)	-40...+85 °C (-40...+185 °F)
Relative humidity IEC 60068-2-30 (Test Db, Unpackaged Damp Heat)	5...95% noncondensing
Emissions	IEC 61000-6-4
EDS Immunity IEC 61000-4-2	4 kV contact discharges 8 kV air discharges
Radiated RF Immunity IEC 61000-4-3	10V/m with 1 kHz sine-wave 80% AM from 80...2000 MHz 10V/m with 200 Hz 50% Pulse 100% AM at 900 MHz 10V/m with 200 Hz 50% Pulse 100% AM at 1890 MHz 3V/m with 1 kHz sine-wave 80% AM from 2000...2700 MHz 3V/m with 1 kHz sine-wave 80% AM from 2700...6000 MHz
EFT/B Immunity IEC 61000-4-4	±2 kV at 5 kHz on signal ports ±2 kV at 5 kHz on communications ports
Surge Transient Immunity IEC 61000-4-5	±2 kV line-earth(CM) on signal ports no shielded ports - omit from publication ±2 kV line-earth(CM) on communications ports
Conducted RF Immunity IEC 61000-4-6	10V rms with 1 kHz sine-wave 80% AM from 150 kHz...80 MHz
Enclosure type rating	None (open-style)
Voltage and current ratings	Backplane: 1.01A @ 5.1V DC, 2.64 mA @ 1.2V DC
Isolation voltage	30V (continuous), Basic Insulation Type Type tested at 1000V AC for 60 s <ul style="list-style-type: none"> Ethernet Ports to Backplane IRIG-B to Backplane
Wire size	Ethernet connections <ul style="list-style-type: none"> 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. IRIG-B connection <ul style="list-style-type: none"> Type RG58 or equivalent Antenna connection <ul style="list-style-type: none"> Cable assembly, TNC Plug to SMA, ships with product.
Wiring Category ⁽¹⁾	2 - on signal ports 2 - on communications ports

(1) Use this Conductor Category information for planning conductor routing. See the Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#).

1756-TIME Module Certifications

Certification ⁽¹⁾ (when product is marked)	Description
c-UL-us	UL Listed Industrial Control Equipment, certified for US and Canada. See UL File E65584.
CE	<ul style="list-style-type: none"> EN 61326-1; Meas./Control/Lab., Industrial Requirements EN 61000-6-2; Industrial Immunity EN 61000-6-4; Industrial Emissions EN 61131-2; Programmable Controllers (Clause 8, Zone A & B)
CE	European Union 1999/5/EC R&TTE, compliant with: <ul style="list-style-type: none"> EN 61010-1; Measurement, Control, and Laboratory Equipment Safety Requirements EN 61010-2-201; Control Equipment Safety Requirements EN 300 440-1 V1.6.1; CSE European Union 2011/65/EU RoHS, compliant with: <ul style="list-style-type: none"> EN 50581; Technical documentation
RCM	Australian Radiocommunications Act, compliant with: <ul style="list-style-type: none"> EN 61000-6-4; Industrial Emissions
KC	Korean Registration of Broadcasting and Communications Equipment, compliant with: <ul style="list-style-type: none"> Article 58-2 of Radio Waves Act, Clause 3

(1) See the Product Certification link at www.ab.com for Declarations of Conformity, Certificates, and other certification details.

Additional Resources

These documents contain additional information concerning related products from Rockwell Automation.

Resource	Description
1756 ControlLogix Communication Modules Specifications, publication 1756-TD003	Provides technical specifications for ControlLogix communication modules.
ControlLogix Time Synchronization Module - Series B User Manual, publication 1756-UM542	Describes the functionality, installation, configuration, and operation of the 1756-TIME module, series B, firmware revision 3.002.
EtherNet/IP Network Configuration User Manual, publication ENET-UM001	Describes how you can use EtherNet/IP™ communication modules with your Logix 5000™ controller and communicate with various devices on the Ethernet network.
Integrated Architecture® and CIP Sync Configuration Application Technique, publication IA-AT003	Explains CIP Sync™ technology and how you can synchronize clocks within the Rockwell Automation Integrated Architecture®.
Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, At http://www.rockwellautomation.com/products/certification for details.	Provides declarations of conformity, certificates, and other certification details.

Rockwell Automation Support

Use the following resources to access support information.

Technical Support Center	Knowledgebase Articles, How-to Videos, FAQs, Chat, User Forums, and Product Notification Updates.	https://rockwellautomation.custhelp.com/
Local Technical Support Phone Numbers	Locate the phone number for your country.	http://www.rockwellautomation.com/global/support/get-support-now.page
Direct Dial Codes	Find the Direct Dial Code for your product. Use the code to route your call directly to a technical support engineer.	http://www.rockwellautomation.com/global/support/direct-dial.page
Literature Library	Installation Instructions, Manuals, Brochures, and Technical Data.	http://www.rockwellautomation.com/global/literature-library/overview.page
Product Compatibility and Download Center (PCDC)	Get help determining how products interact, check features and capabilities, and find associated firmware.	http://www.rockwellautomation.com/global/support/pcdc.page

Documentation Feedback

Your comments will help us serve your documentation needs better. If you have any suggestions on how to improve this document, complete the How Are We Doing? form at http://literature.rockwellautomation.com/idc/groups/literature/documents/du/ra-du002_-en-e.pdf.

Rockwell Automation maintains current product environmental information on its website at <http://www.rockwellautomation.com/rockwellautomation/about-us/sustainability-ethics/product-environmental-compliance.page>.

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