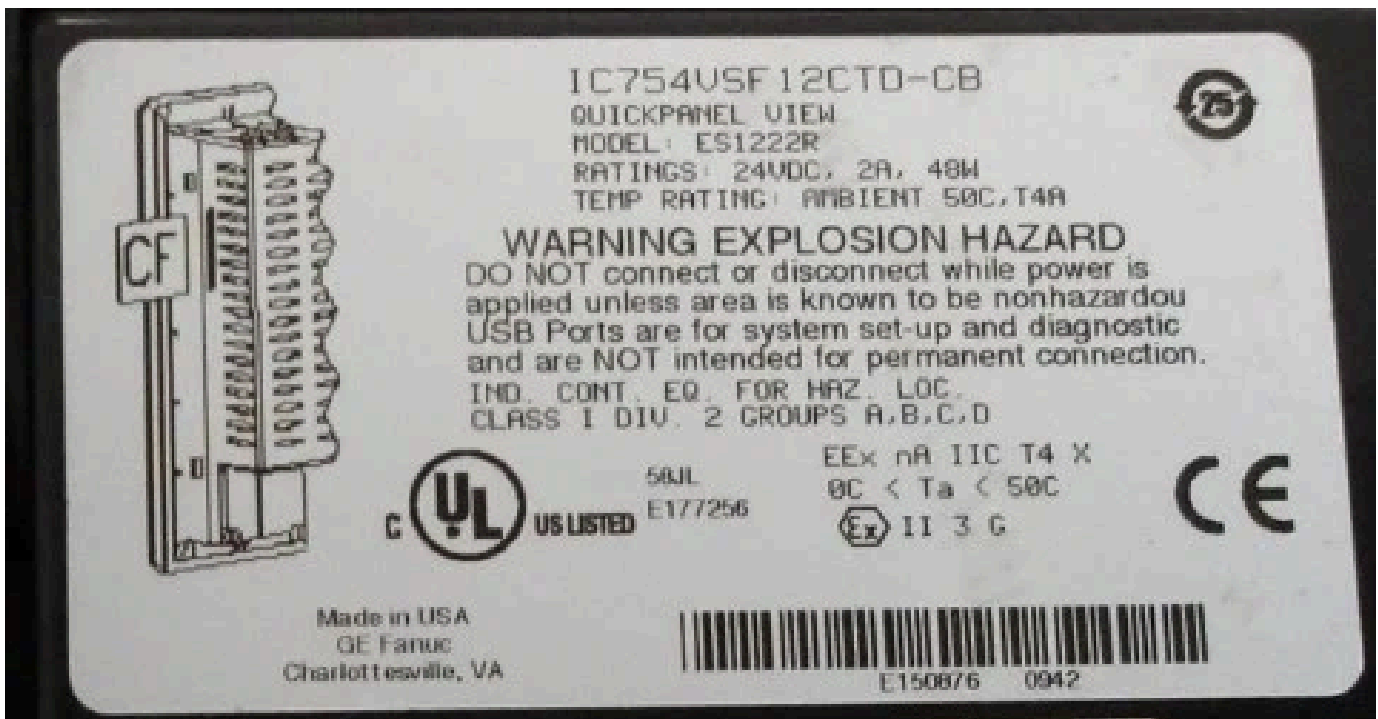




GE Fanuc Intelligent Platforms Operator Interface Products

12" QuickPanel™ View & QuickPanel Control Loaded Color TFT

IC754CBF12CTD
IC754CGF12CTD
IC754CSF12CTD
IC754VBF12CTD
IC754VGF12CTD
IC754VSF12CTD
IC754OBF12CTD

Hardware User's Guide
GFK-2284C

December 2008



Notices

The FCC requires the following note to be published according to FCC guidelines:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Any changes or modifications to the product or installation that are not expressly approved by GE Fanuc could void the user's authority to operate the equipment under FCC rules.

Industry Canada requires the following note to be published:

This Class A digital apparatus complies with Canadian ICES-003.

The following statements are required to appear for Class I Division/Zone 2 Hazardous Locations.

1. WARNING – EXPLOSION HAZARD – SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS 1, DIVISION 2.
2. WARNING - EXPLOSION HAZARD - WHEN IN HAZARDOUS LOCATIONS, TURN OFF POWER BEFORE REPLACING OR WIRING MODULES.
3. WARNING - EXPLOSION HAZARD - DO NOT CONNECT OR DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NON-HAZARDOUS.

Power, input and output (I/O) wiring must be in accordance with Class I, Division 2 wiring methods, Article 501 10(b) of the National Electric Code, NFPA 70 and in accordance with the authority having jurisdiction.

Users must supply an isolated DC supply to power the QuickPanel models covered by this manual. The power supply to the QuickPanel must be limited by a slow blow fuse not to exceed a maximum 100VA. For less than 20Vdc input, the fuse must be rated for no more than 5A.

For a complete list of agency approvals, please refer to Appendix A.

Communication Ports

The QuickPanel View/Control has two serial data communication ports, COM1 and COM2.

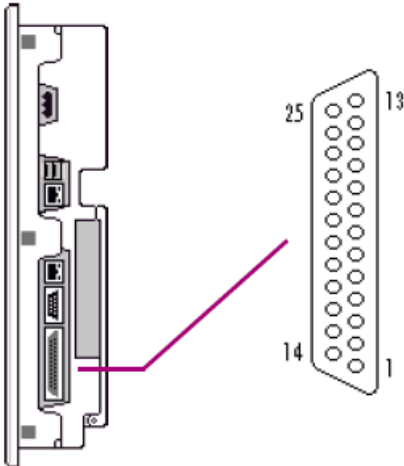
COM1- Serial

The COM1 port is a general purpose bidirectional serial data channel that supports the EIA232C and EIA485 electrical standards. The COM1 port can be accessed and configured:

- as a direct or dial-up remote networking connection.
- as the port used by a terminal session (modem link only).
- from a user-created application utility.

A connection can be configured to reside on a network supporting a TCP/IP protocol.

A DB25S (female) connector, mounted on the bottom of the enclosure, provides standard signals as described in the following table.

Bottom	
	1 GND - Frame Ground
	2 TX - (EIA232C)
	3 RX - (EIA232C)
	4 RTS - (EIA232C)
	5 CTS - (EIA232C)
	6 DSR - (EIA232C)
	7 SG - Signal Ground
	8 DCD - (EIA232C)
	9 TRMRXB (EIA485)
	10 RXA (EIA485)
	11 TXA (EIA485)
	12 n/c
	13 n/c
	14 VCC -5VDC, 0.5A
	15 TXB (EIA485)
	16 RXB (EIA485)
	17 n/c
	18 CSB (EIA485)
	19 ERB (EIA485)
	20 DTR (EIA232C)
	21 CSA (EIA485)
	22 ERA (EIA485)
	23 n/c
	24 n/c
	25 n/c

Note: Pin 14 is fused with a field-replaceable, 1.0A fast-blow fuse.

Recommended Cabling for TIA/EIA422 or TIA/EIA485

The COM1 port on the QuickPanel View/QuickPanel Control provides connections to devices that support either TIA/EIA422 or TIA/EIA485. These electrical standards specify a differential signaling technique that provides high data rates, long distances and good noise rejection. The standards do not address signal encoding (protocol), connectors, or cabling. However, certain characteristics of these devices' interfaces should be considered to ensure reliable connections.

Connections	Connect nodes in a daisy chain fashion. Do not connect in other arrangements, especially "star." The standards do not specify the maximum number of nodes or devices that can be connected to a TIA/EIA 422 or 485 network. Instead, the standards limit the number of electrical connections by specifying that a maximum of 32 unit loads may be connected. The QuickPanel View or QuickPanel Control presents one unit load.
Interconnect media	Always use twisted pair cabling and group complimentary signals into conductor pairs; TXA with TXB, for example. Use a cable with a characteristic impedance of 100 ohms to 120 ohms. A wire gauge of 24 AWG is commonly used. Maximum cable length is 4,000' (1,219.2m), but may be less due to cable impedance, connection quality, data rates, and other factors.
Termination	Always provide proper termination at each end of the 422/485 network. The QuickPanel View provides built-in termination resistance when pin #9 (TRMRXB) is connected to pin #10 (RXA). Caution: Do not terminate every node. Only terminate the end nodes.

Grounding	A signal return path between transmitting and receiving devices must be provided. This return path is separate from the Rx and Tx data lines and the other 422/485 signals supported by the QuickPanel View/QuickPanel Control, and may be provided by a separate conductor in the cable. Connect both ends of the signal return conductor to Signal Ground (pin #7). Shielding or use of a twisted pair for this connection is not necessary. For installations where all devices are in the same cabinet and have the same ground potential between devices, connecting Signal Ground between all the devices on the 422/485 network is adequate to ensure proper voltage levels at the devices. However, if there is a difference in ground potential between devices, such as when the devices are in widely separated cabinets, signal grounds on a 422/485 network should not be tied together. The cable shield and signal ground should be connected together at only one device, closest to the earth ground connection. The signal and frame grounds of the QuickPanel View/QuickPanel Control are capacitively coupled, but in some devices these ground references are connected together. Connect Signal Ground (pin #7) to Frame Ground (pin #1) and then to earth ground on the QuickPanel View/QuickPanel Control only in the circumstance where the other devices separate their signal and frame grounds and the QuickPanel View/QuickPanel Control is the only device with frame and signal ground connected to earth ground.
Shielding	Shielded cable is required for compliance with CE Mark and FCC requirements. The cable shield should be connected to the metal connector shell or by pin 1 of the QuickPanel 25-pin serial connector. Shield and signal ground (pin 7 of the 25pin connector or pin 5 of the 9-pin serial connector) should not be connected directly together.

Caution

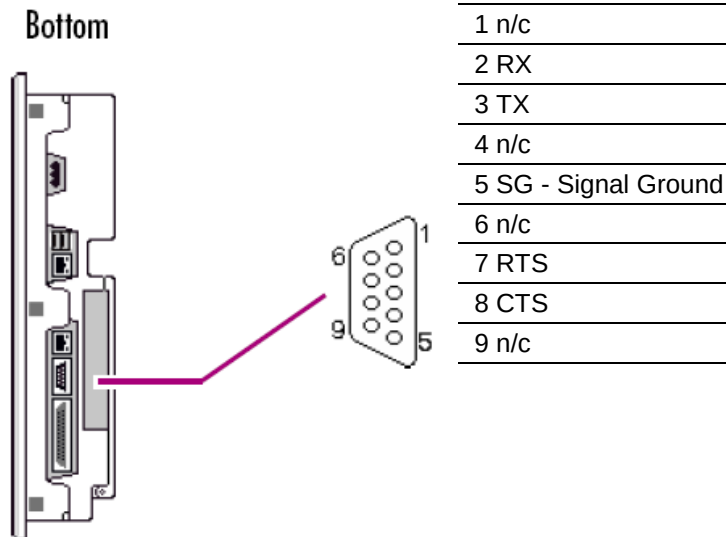
Do not connect Signal Ground (pin #7) to Frame Ground (pin #1) on the QuickPanel View/QuickPanel Control, except in the specific and limited circumstances noted in the Grounding section above.

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COM2 - Serial

The COM2 port is a general-purpose bidirectional serial data channel that supports the EIA232C electrical standards.

A DB9P (male) connector, mounted on the bottom of the enclosure, provides standard signals as described in the following table.

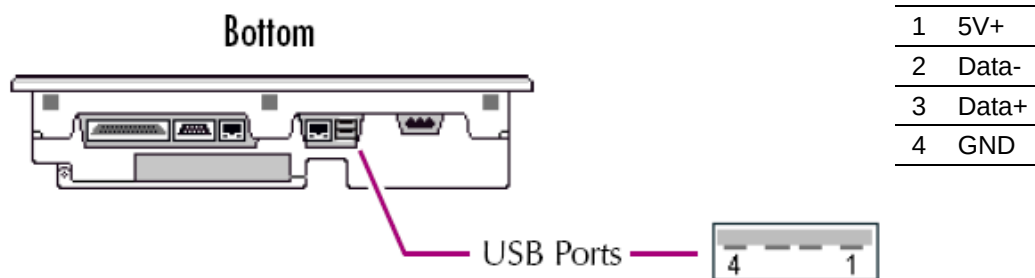


Shielding	Shielded cable is required for compliance with CE Mark and FCC requirements. The cable shield should be connected to the metal connector shell. Shield and signal ground (pin 5 of the 9-pin serial connector) should not be connected directly together.
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Universal Serial Bus (USB)

The QuickPanel View/Control has two full-speed USB v1.1 host ports. A variety of third-party USB peripheral devices are available.

Each connected USB device requires a specific driver. The driver supplied with the QuickPanel View/Control is for optional keyboard or mouse support – other devices require the installation of custom driver software.



A list of compatible devices (keyboards, USB mice, compact flash cards, USB memory stick, etc.) may be found by visiting the GE Fanuc Support page, accessible from <http://support.gefanuc.com>.

Note: These USB ports are defined as maintenance ports and are intended to be temporary connections used for configuration and upload/download of software or data.

Use of a device in the USB port may compromise CE Mark and UL certifications. Before using an application requiring the use of a USB device, verify that the USB device installed in the QuickPanel View/Control meets the desired agency certifications.

Warning

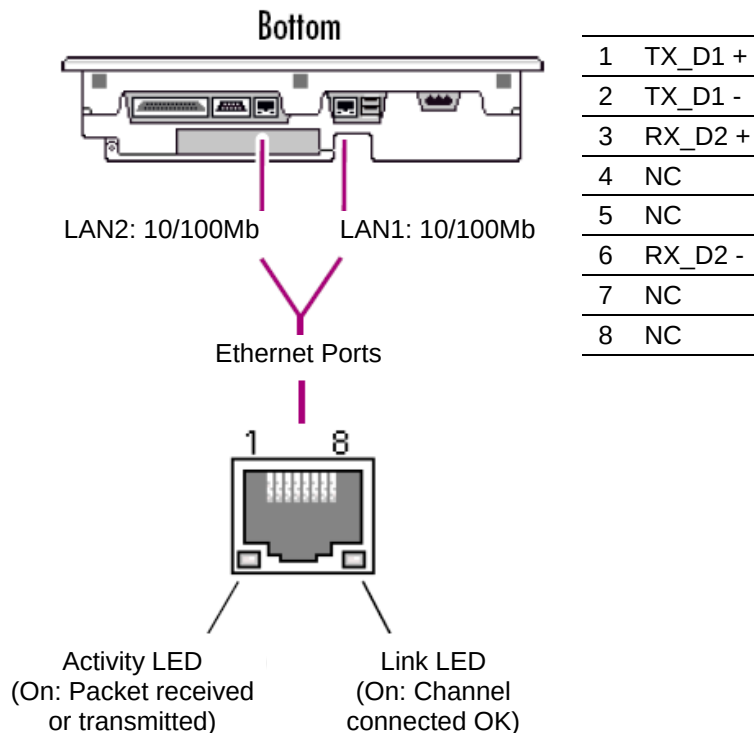
For compliance to UL1604, do not connect or disconnect while power is applied unless the area is known to be nonhazardous.

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Ethernet

The QuickPanel View/Control is equipped with two auto-negotiate, full or half duplex Ethernet ports (IEEE802.3). The auto-negotiate feature is not configurable on the QuickPanel, therefore all devices on the network to which the QuickPanel is attached should also be in auto-negotiate mode to ensure proper network communications.

You can connect an Ethernet network cable (unshielded, twisted pair, UTP CAT 5) to the unit via the RJ45 connector on the bottom of the enclosure. LED indicators on the port indicate channel status. Access to the ports is possible either by Windows CE network communications, or by your custom application. The following diagram shows the location, orientation, and pin out of the Ethernet ports.



Environmental

Operating Temperature*	32°F to 122°F (0°C to 50°C)
Operating Humidity	10% to 85% non-condensing
Storage Temperature*	-4 to 158°F -20 to 70°C
Storage Humidity	10% to 85% non-condensing RH (non-condensing) at less than 50°C; maximum 50% RH at greater than 50°C.
NEMA Rating	4 and 4x when mounted in a comparably rated NEMA panel (NEMA 4 is approximately equivalent to IP66; visit www.nema.org)
Operational Vibration	IEC 60068-2-6 10—57Hz, 0.012" peak to peak displacement 57—500Hz, 1.0g acceleration
Operational Shock	IEC 60068-2-27 15g, 11ms (sine wave)

* Rated temperature limits refer to the ambient air temperature immediately surrounding (less than 3" or 7.6 cm) the QuickPanel inside the enclosure in which the QuickPanel is mounted. Additional provisions for remaining within the stated limits must be considered where additional, external thermal loads are imposed on the QuickPanel. These could include large heat producing motor drives, or power supplies in the same cabinet or in outdoor applications involving direct sun exposure.

Battery

Type	Panasonic BR2032 (3V, 190mAh, lithium)
Approximate	5 years

Calendar/Clock

Resolution	1 second
Accuracy	±2 to 3 minutes per month
Retention	Life of battery

A

Agency Approvals

Model number: ES1222R

QuickPanel Control/View is intended for industrial environments and when properly installed shall comply with the following agency approvals.

<i>Description</i>	<i>Agency Standard or Marking</i>	<i>Comments</i>
North American Safety for Hazardous Locations Class I, Div. 2, Groups A, B, C, D	UL 1604/C-UL	Certification by Underwriter's Laboratories to UL standard and equivalent CSA standard
Explosive Atmospheres Directive European Safety for Hazardous Locations Equipment Group II, Category 3	ATEX (when mounted in an IP66 enclosure)	Certification in accordance with European directives; refer to Declaration of Conformity.
Low Voltage Directive European Safety for Industrial Control Equipment	CE	Certification in accordance with European directives; refer to Declaration of Conformity
Electromagnetic Compatibility Directive European EMC for Industrial Control Equipment	CE	Certification in accordance with European directives; refer to Declaration of Conformity

The agency approvals listed above and on the Declaration of Conformities are believed to be accurate; however, a product's agency approvals should be verified by the marking on the unit itself.



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PRODUCT: IC754VSF12CTD-CB / GE Fanuc 12-inch QuickPanel View HMI

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