Trusted I/O Companion Slot Cables

Product Overview

This document provides detailed information for the types of Trusted® input/output (I/O) Cables available within the Companion Slot group. These types of cable provide connection facilities between the Trusted analogue and digital I/O modules, and Trusted Field Termination Assemblies (FTAs) or Trusted Versatile Field Termination Assemblies (VFTAs) as required. Cables are also available with a 'flying lead' at one end to allow connection to conditioned terminals.

The types of Trusted I/O Companion Slot Cables currently available are listed in Table 1 on page 4.

The cables are manufactured to user's requirements; therefore length and type of cable insulation must be specified. Length must be specified to the nearest 0.5 m in the format xmx, e.g. 2m0 for a cable length of 2.0 m. This detail must be added to the end of the part number. Note that some cable lengths are preferred options and may be easier to obtain; please refer to Rockwell Automation for details. The type of cable insulation forms part of the cable part number and is denoted by 02 for Low Smoke Zero Halogen (LSZH) or 03 for UL Certified cable material. 02 is also flame retardant to IEC 60332-3 Cat A. When ordering cables, it is recommended that the user supplies the details as shown in Table 1.

The maximum recommended I/O cable length is 15 m. Cables longer than this may be specified if necessary but may suffer from voltage drop, offset, crosstalk and noise and will present materials handling problems.

Internal cables are designed for cables where they are terminated in adjacent enclosures. If the cable needs to leave the enclosure environment, the external cable has more protection. Note that the 'external' cables are not armoured and are not suitable for truly external use and must still be treated with care. These cables will need protection when drawn through a cable route, and should also not be pulled by the connector(s). They should enter cabinets through transit/compression blocks and cannot be glanded.

The Companion Slot cables described in this document allow hot-swap modules to be sited in adjacent slots using a double width chassis socket. For SmartSlot cables, allowing a remote slot to be assigned as necessary for a hot-swap, refer to Trusted I/O SmartSlot Cables, publication ICSTT-RM313 (PD-TC500).

1. Companion Slot Cable Types and Selection Guides

The types of Trusted I/O Companion Slot Cables currently available are listed in Table 1 below:

Cable Type	Description
TC-201-02-xmx	I/O Companion Slot, Internal, 40 Channel Input to FTA
TC-201-03-xmx	I/O Companion Slot, Internal, 40 Channel Input to FTA (UL)
TC-202-02-xmx	I/O Companion Slot, Internal, 40 Channel Input to Flying Lead / Free Wire
TC-202-03-xmx	I/O Companion Slot, Internal, 40 Channel Input to Flying Lead / Free Wire (UL)
TC-203-02-xmx	I/O Companion Slot, External, 40 Channel Input to FTA
TC-203-03-xmx	I/O Companion Slot, External, 40 Channel Input to FTA (UL)
TC-204-02-xmx	I/O Companion Slot, External, 40 Channel Input to Flying Lead / Free Wire
TC-204-03-xmx	I/O Companion Slot, External, 40 Channel Input to Flying Lead / Free Wire (UL)
TC-205-02-xmx	I/O Companion Slot, Internal, 40 Channel Output to FTA
TC-205-03-xmx	I/O Companion Slot, Internal, 40 Channel Output to FTA (UL)
TC-206-02-xmx	I/O Companion Slot, Internal, 40 Channel Output to Flying Lead / Free Wire
TC-206-03-xmx	I/O Companion Slot, Internal, 40 Channel Output to Flying Lead / Free Wire (UL)
TC-207-02-xmx	I/O Companion Slot, External, 40 Channel Output to FTA
TC-207-03-xmx	I/O Companion Slot, External, 40 Channel Output to FTA (UL)
TC-208-02-xmx	I/O Companion Slot, External, 40 Channel Output to Flying Lead / Free Wire
TC-208-03-xmx	I/O Companion Slot, External, 40 Channel Output to Flying Lead / Free Wire (UL)
TC-209-02-xmx	I/O Companion Slot, Internal, 40 Channel Output to VFTA
TC-209-03-xmx	I/O Companion Slot, Internal, 40 Channel Output to VFTA (UL)
TC-210-02-xmx	I/O Companion Slot, External, 40 Channel Output to VFTA
TC-210-03-xmx	I/O Companion Slot, External, 40 Channel Output to VFTA (UL)
TC-211-02-xmx	I/O Companion Slot, Internal, 40 Channel Input to VFTA

Cable Type	Description
TC-211-03-xmx	I/O Companion Slot, Internal, 40 Channel Input to VFTA (UL)
TC-212-02-xmx	I/O Companion Slot, External, 40 Channel Input to VFTA
TC-212-03-xmx	I/O Companion Slot, External, 40 Channel Input to VFTA (UL)
TC-215-02-xmx	I/O Companion Slot Internal 40 Channel Output to FTA (Integral Power)
TC-215-03-xmx	I/O Companion Slot Internal 40 Channel Output to FTA (Integral Power) (UL)
TC-216-02-xmx	I/O Companion Slot Internal 40 Channel Output to Flying Lead / Free Wire (Integral Power)
TC-216-03-xmx	I/O Companion Slot Internal 40 Channel Output to Flying Lead / Free Wire (Integral Power) (UL)
TC-218-02-xmx	I/O Companion Slot External 40 Channel Output to Flying Lead / Free Wire (Integral Power)
TC-218-03-xmx	I/O Companion Slot External 40 Channel Output to Flying Lead / Free Wire (Integral Power) (UL)
TC-221-02-xmx	I/O Companion Slot Internal 16 Channel AC Output to T8871 FTA (Integral Power)
TC-221-03-xmx	I/O Companion Slot Internal 16 Channel AC Output to T8871 FTA (Integral Power) (UL)
TC-223-02-xmx	I/O Companion Slot Internal 40 Channel AC Input from T8824 FTA
TC-223-03-xmx	I/O Companion Slot Internal 40 Channel AC Input from T8824 FTA (UL)

Table 1 Trusted I/O Companion Slot Cables

				FTA	TC-501-
INTERNAL	SMARTSLOT	INPUT		VFTA	TC-511-
				Flying Lead	TC-502-
		OUTPUT		FTA	TC-505-
				VFTA	TC-509-
				Flying Lead	TC-506-
			Integral Power	Flying Lead	TC-516-
	COMPANION SLOT	INPUT		FTA	TC-201-
				VFTA	TC-211-
				Flying Lead	TC-202-
		OUTPUT		FTA	TC-205-
				VFTA	TC-209-
				Flying Lead	TC-206-
			Integral Power	FTA	TC-215-
				Flying Lead	TC-216-
EXTERNAL	SMARTSLOT	INPUT		FTA	TC-503-
				VFTA	TC-512-
				Flying Lead	TC-504-
		OUTPUT		FTA	TC-507-
				VFTA	TC-510-
				Flying Lead	TC-508-
			Integral Power	FTA	TC-517-
				Flying Lead	TC-518-
	COMPANION SLOT	INPUT		FTA	TC-203-
				VFTA	TC-212-
				Flying Lead	TC-204-
		OUTPUT		FTA	TC-207-
				VFTA	TC-210-
				Flying Lead	TC-208-
			Integral Power	Flying Lead	TC-218-

Table 2 TMR 40 Channel Standard Cable Selection Guide

INTERNAL	SMARTSLOT	INPUT	FTA	TC-601-
	COMPANION SLOT	INPUT	FTA	TC-701-

Table 3 Dual 60 Channel Standard Cable Selection Guide

The various types of I/O Companion Slot Cables, i.e. TC-201, TC-202 etc. are described in the following sections.