

Simplex Contact Input (STCI) Terminal Board

The STCI terminal board is a compact contact input terminal board used for Simplex configurations. The STCI accepts 24 contact inputs that are supplied with a nominal 24 or 48 V dc excitation from an external source, or I/O wetting power supply. The contact inputs have noise suppression to protect against surge and high-frequency noise. The YDIA mounts directly on the STCI terminal board. The STCI is available in multiple versions to meet customer requirements. The STCI Terminal Board with YDIA I/O Pack Specifications table provides the specifications for the STCI versions available for use in the Mark VleS Functional Safety System.

Contact Input (TBCI) Terminal Board

The TBCI terminal board is a contact input terminal board used for Simplex, Dual, or TMR configurations. The TBCI accepts 24 dry contact inputs wired to two barrier-type terminal blocks. For contact excitation, dc I/O wetting power is wired to the TBCI. The contact inputs have noise suppression to protect against surge and high-frequency noise. The YDIA I/O pack(s) mount directly on the TBCI terminal board. The TBCI is available in multiple versions to meet customer requirements. The TBCI Terminal Board with YDIA I/O Pack Specifications table provides the specifications for the TBCI versions available for use in the Mark VleS Functional Safety System.

TBCI Terminal Board with YDIA I/O Pack Specifications

Item	TERMINAL BOARD	
	IS410TBCIS2C	IS410TBCIS3C
Product Name	Mark VleS 24 V dc Contact Input	Mark VleS 48 V dc Contact Input
Life-cycle Status	Active	Active
I/O Pack Redundancy	TMR, Dual, or Simplex	TMR, Dual, or Simplex
I/O Pack	IS420YDIAS1B (qty 3, 2, or 1) (order separately)	IS420YDIAS1B (qty 3, 2, or 1) (order separately)
Number of Channels	24 channels per module (24 inputs)	24 channels per module (24 inputs)
Input I/O Wetting Voltage	24 V dc Nominal, 110 mA, floating source to allow ground fault detection 20 V dc min, 32 V dc max	48 V dc Nominal, 110 mA, floating source to allow ground fault detection 43 V dc min, 53 V dc max
I/O Wetting Power Connector	Mate-N-Lok receptacle (AMP 350766-1)	
Field Wiring Terminal Block	Barrier-type terminal blocks	
Field Wiring	22 AWG min, 12 AWG max	
I/O Scan Time	Configured frame rate of the controller determines I/O scan rate for control	
Sequence of Events (SOE)	Yes, 1 mS SOE sample rate	
Diagnostic Fault Detection	Power-up self test, loss of contact input voltage, non-responding contact input in background test mode, and incorrect terminal board check	
Contact Input Line Monitoring	No	
I/O Pack DC Control Power	24 / 28 V dc, 6.8 W max per YDIA	
I/O Pack DC Power Connector	Micro Mate-N-Lok receptacle (AMP 1445022-3)	
I/O Pack Construction	Aluminum case	
I/O Pack Health	Visual status LEDs, circuit health variables available to control logic	
Termination Module Dimensions (includes cover and I/O pack) (H x W x D)	34.0 x 15.7 x 15.3 cm (13.4 x 6.2 x 6.0 in)	
Safety Rated	Yes, compliant with IEC 61508	
Hazardous Locations Capability	Class 1, Div 2 / Class 2, Zone 2 / ATEX. For ratings and further details, refer to the document <i>Mark Vle and Mark VleS Control Systems Equipment in Hazardous Locations (HazLoc) Instruction Guide (GEH-6725)</i> .	
G3 Compliant	Yes	
Ambient Operational Temperature	-40 to 70°C (-40 to 158°F)	
Storage Temperature	-40 to 85°C (-40 to 185°F)	
Mounting Method	DIN-rail mounted	
I/O Pack Replacement Part Number	IS420YDIAS1B	
Terminal Board Part Number	IS410TBCIS2C	IS410TBCIS3C
Module Cover Replacement Part Number	151X1202YE08PP16BL	151X1202YE08PP16BL