

## TC-631 REMOTE DIGITAL I/O TERMINATOR FUNCTIONAL DESCRIPTION

REV 1.00 07/01/90 WJS

The TC-631 Remote Digital I/O Terminator provides interconnection between a remote or stand-alone TC-3161C Digital Decoder/Output card and local terminations within a breakout box or panel assembly.

One TC-3161C card can plug into the end of the TC-631 Breakout Adapter. A standard 22/44 edge connector and insulated card guides are provided for the output card to "dock" on the right side of the module. Four insulated nylon stand-off supports are used to mount the TC-631 to the panel or support assembly, and an additional/optional two stand-offs may be used to lock the TC-3161 Output card in place.

Phoenix Technologies compression style terminal strip connectors are provided for all power and individually paired output connections for each channel.

A six pin molex .01 KK series connector is provided on the top of the TC-631 for connection of the serial data to the remote driver card from a centrally located I/O frame. This connector is redundant with the data connector on a TC-3161C, but allows the data to be permanently connected such that the active card can be easily removed for service or replacement.

The 12-24 VDC solenoid or valve power is bussed to independent output terminals for each channel, while the common reference is bussed to each channels' common reference pin on the edge connector for the TC-3161C driver card.

The traces have been designed to handle a total current of eight amps at 24 VDC with all channels active, or .5 amp per channel. For most installations, each card should be fused at a nominal four amps on the positive side (at 24 VDC) unless higher currents are required by the output channels. Each current sink output on the TC-3161C is individually fused at 3/4 amp.

Five volt logic power is bussed on pins A and 1, while logic ground is bussed on pins Z and 22 of the edge connector, and on the terminal strips as shown below. A LED is provided to indicate presence of the 5 volt logic power. A common practice is to use an LM-309 style voltage regulator from the local digital power supply to obtain the 5 volt supply.

*It is essential that there is a common reference between the local logic (+5 VDC) supply and driver output voltage (+12-24 VDC) supply grounds. As the data signals are optically isolated from the data source, a common ground is **NOT** required to the I/O frame that is driving the remote card, although the shield should connect to the driving end of the data line.*

### Physical Dimensions:

3" x 4.5" printed circuit board assembly (9.125" with TC-3161 installed)

### Power Requirements:

+5VDC @ 150 MA. for logic, +12-24 VDC for output channels

### Related Documents:

TC631.ASM	Assembly Diagram
SC-7.12	Standard I/O Pin Assignment Connections
SC-7.13	Cable Harness/Assemblies

**PIN ASSIGNMENTS**

**PHOENIX TERMINAL STRIP PIN ASSIGNMENT**

+V IN	1	19	+5VDC LOGIC
+V 1	2	20	OUTPUT 1
+V 2	3	21	OUTPUT 2
+V 3	4	22	OUTPUT 3
+V 4	5	23	OUTPUT 4
+V 5	6	24	OUTPUT 5
+V 6	7	25	OUTPUT 6
+V 7	8	26	OUTPUT 7
+V 8	9	27	OUTPUT 8
+V 9	10	28	OUTPUT 9
+V 10	11	29	OUTPUT 10
+V 11	12	30	OUTPUT 11
+V 12	13	31	OUTPUT 12
+V 13	14	32	OUTPUT 13
+V 14	15	33	OUTPUT 14
+V 15	16	34	OUTPUT 15
+V 16	17	35	OUTPUT 16
COMMON	18	36	COMMON

**6 PIN .1 KK MALE MOLEX DATA CONNECTOR**

1	WH	+5 VDC from data source (opto isolator)
2		
3	BK	Common from data source
4		
5	GN	Data TTL input
6	RD	Strobe TTL input