



Safety Considerations

TÜV The Monitored Guarded output modules are TÜV certified to Risk Class 5 for safety critical outputs. The modules are approved for de-energize to trip safety critical outputs in single or dual module configurations.

The modules are also approved for energize to trip safety critical outputs in dual module configuration, but only if the fault name variables are configured and used to automatically alarm and annunciate the detection of load/fuse faults to plant operations personnel.

Specifications

Safetybus Power	1.5 load units		
Number of Outputs	16 circuits divided into two groups of 8 circuits each		
	T7481 (81A)	T7484	T7488 (88A)
Voltage Range	18 to 36 VDC	90 to 130 VAC	95 to 140 VDC
Frequency	N/A	47 to 63 Hz	N/A
Load Current			
(0 to 40° C)	2 amp	0.7 amp	1.0 amp
derating (at 60° C)	1.5 amp	0.5 amp	0.75 amp
Minimum Load	20 mA (5mA)	20 mA	35 mA (5mA)
On State Drop	1.0 V, maximum	2.5 V, maximum	2.0 V, maximum
Surge Current			
incandescent, capacitive loads:	3.5 amps, peak	3.5 amps, peak	3.5 amps, peak
inductive loads:	7 amps for 20 msec	3 amps for 20 msec	3 amps for 20 msec
Output Leakage			
single, fail-safe module:	5 mA, (700ua) maximum	5.5 mA, maximum	5.5 mA, (700ua) maximum
dual, fault-tolerant modules:	7.5 mA, (1 mA) maximum	8.5 mA, maximum	8.5 mA, (1 mA) maximum
	T7481/81A	T7484	T7488/88A



Monitored Guarded Output Modules (T7481/81A, 84, and 88/88A)

Fusing (front mounted)	One 3 amp, 250 V, fast acting (3AB), rectifier type, per output Littelfuse 322-003	One 2 amp, 250 V, fast acting (3AB), rectifier type, per output Littelfuse 322-002	One 2 amp, 250 V, fast acting (3AB), rectifier type, per output Littelfuse 322-002
Turn-On Delay	0.5 msec	0.5 msec	0.5 msec
Turn-Off Delay	0.5 msec	0.5 msec	0.5 msec
Output Test Duration	250 msec for single or dual modules, max of 425 msec if switch fault (dual modules only)	250 msec for single or dual modules, max of 425 msec if switch fault (dual modules only)	250 msec for single or dual modules, max of 425 msec if switch fault (dual modules only)
Heat Dissipation	30 Watts, 101 BTUs/hour	27 Watts, 92 BTUs/hour	27 Watts, 92 BTUs/hour
Over Voltage Protection	70 VDC, continuous 100 VDC, 5 seconds	275 VAC, continuous 450 VAC, 5 seconds	275 VAC, continuous 450 VAC, 5 seconds
Isolation		2500 volts minimum (field wiring to control logic) 2500 volts minimum (output group 1-8 to output group 9-16)	
Operating Temperature		0° to 60° C (32° to 140° F)	
Storage Temperature		-40° to 85° C (-40° to 185° F)	
Operating Humidity		0 to 95% relative humidity, non-condensing	
Vibration 10 to 55 Hz:		±0.15mm	
Shock Operating:		15 g, ½ sine wave, 11 msec	



Electromagnetic Interference

- IEC 801 Part 2 - Electrostatic Discharges Level 3: Contact discharge of 6 kV
- IEC 801 Part 3 - Radiated Electromagnetic Fields Level 3: 10 V/M, 27 MHz - 500 MHz
- IEC 801 Part 4 - Transients and Bursts Level 4: 2 kV, 2.5 kHz for t=60 sec
- IEC 801 Part 5 - Surge Immunity Level 3: 2 kV
- ANSI/IEEE C37.90 - Surge Withstand Capability
2.5 kV damped 1 MHz sine wave,
4 kV bi-directional impulse, 10 nsec rise time, fast transient

Safety

Certified to DIN V VDE 0801 for Risk Class 5. Also designed to meet UL 508 and CSA 22.2, No. 142-M1981

Dimensions

Height: 12.6" (320 mm)
Width: 1.27" (32 mm)
Depth: 10.12" (257 mm)

Weight

4.2 lbs (1.8 kg)