TC-10B Specifications

Transmitter/Receiver Specifications

Frequency Range	30–535 kHz in 0.5 kHz (500 Hz) steps, transmitter selection in 100 Hz steps
4-Wire Receiver Input Impedance	5,000 ohms or 1,000 ohms
RF Output Impedance	50, 75 or 100 ohms (nominal unbalanced)
Output Power	10 watts (max)
Frequency Stability	± 10 Hz (typical)
Nominal Receiver Bandwidths	Narrow band: (800 Hz at 3 dB points) Wide band (1600 Hz at 3 dB points) On-Off Phase Comparison (3,500 Hz at 3 dB points)
Harmonic Distortion	55 dB below full power
Receive Sensitivity	22.5 mV (min) to 70 V (max) Standard setting
(Narrow or Wide Band)	5 mV (min) to 17 V (max) High setting

Channel Speed at 15 dB Margin, Solid State Output

Narrow Band (800 Hz)	3.8ms (pickup) 6.0ms (dropout)
Standard (Wide) Band (1,600 Hz)	2.4ms (pickup) 3.8ms (dropout)
Phase Comparison Band (3,500 Hz)	1.3ms (pickup) 1.5ms (dropout)

System Specifications (Min. Channel Spacing)

Wideband	4 kHz
Narrow band	2 kHz
W/Voice Adapter	4 kHz
Phase Comparison	4 kHz

An ext. hybrid or other device offering at least 20dB rejection of the adjacent channel must be used in the application

Keying Specifications

Carrier Start, Carrier Stop Auxiliary (Reduced Power) Keying	All optically isolated for operation at 15V, 48V, 125V, or 250Vdc, strappable for either presence or absence of voltage for keying, as well as carrier start or stop priority (maximum burden is 20mA)
Manual Keying	Recessed push button switches for carrier start and auxiliary keying

Receiver Output Specifications

Two independent relaying outputs	Outputs (fully isolated) provide up to 1A transistor switch for microprocessor relaying or 200mA (into 24 ohms), 20 mA (into 2,200 ohms); will operate from any battery supply (20 to 280 Vdc)
One receive alarm output (Detect)	One Form A 100 VA, 125 Vdc (maximum)
One carrier level output	0–100 µA for external indicator

Alarm & Level Option Specifications

Alarm Contacts (dc Power Loss RF "ON", and Receive at Margin; 3 separate relays)	Form A or B contacts (field strappable) rated 100 VA; 0.5 sec. of dropout delay
Carrier Level Indication Meter	–20 dB to +10 dB

Universal Checkback Specifications

PC interface for controlling settings and operation
On-line help
User selectable encoded or timed carrier
Three user programmable outputs
Optional timed communications fallback
Optional low power tests
Automatic checkback tests done either periodically or at user specified times
Loopback test capability
Remote communications
Automatic clock synchronization
Optional carrier recovery

AMETEK®
POWER INSTRUMENTS

Pulsar

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Voice Adapter Option Specifications

Modulation	Amplitude Modulation with compandor
Transmission	Half-Duplex
Frequency Response	300 Hz to 2 kHz
Signaling	Carrier alarm

Environmental Specifications

Ambient Temp. range of air	-20 to +60°C (derated per Table 1-9 in system manual) (ANS C37.90)
Relative Humidity	Up to 95% (non-condensing) at 40°C (for 96 hrs. cumulative) (ANS/UL 508)
Altitude	Up to 1,500m (without derating), 6,000m (using Table 1-8 & 1-9 in system manual)
SWC and FAST Transient	All external user interfaces meet SWC and FAST Transients of ANS C37.90.1 & IEC 255-6
Dielectric	Only isolated inputs and outputs, and all alarms: 2,500 Vdc from each terminal to ground derated per Table 1-8 in system manual (IEC 255-5)
Center conductor of coaxial cable to ground	3.000 Vdc impulse level, using 1.2 x 50 msec impulse
Electro-Magnetic Interference Compatibility	IEEE Standard (ANS C37.90.2)

Power Requirement Specifications

Transceiver		Supply Current (Amps) at Nominal voltage		
Nominal Battery Voltage	**Permissable Voltage Range**	**Receive/ Standby**	**1 Watt Transmit**	**10 Watt Transmit**
48/60 Vdc	38–70 Vdc	.630	.940	1.600
110/125 Vdc	88–140 Vdc	.240	.360	.600
220/250 Vdc	176–280 Vdc	.120	.180	.300

Altitude Correction for Maximum Temperature of Cooling Air (ANS C93.5)

	Temperature (Degrees C)			
				From Usual
Usual	1,500	55	40	–
Unusual	2,000	53	38	2
Unusual	3,000	48	33	7
Unusual	4,000	43	28	12

Altitude Dielectric Strength De-Rating for Air Insulation

Altitude (Meters)	Correction Factor
1,500	1.00
1,800	0.97
2,100	0.94
2,400	0.91
2,700	0.87
3,000	0.83
3,600	0.79
4,200	0.74
4,800	0.69
5,400	0.64
6,000	0.59

Weight and Dimension Specifications

Equipment	Net Weight		Height		Width		Depth		Rack
	lbs	Kg	in.	mm	in.	mm	in.	mm	space
Transceiver	21	9.53	5.25	133.4	19.00	482.6	13.50	342.9	3 RU

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