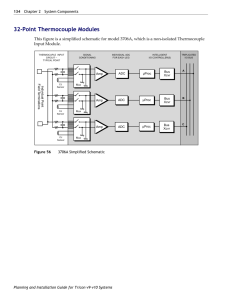
AMIKON TECHNICAL INTELLIGENCE

Product Data Sheet

Triconex 3706A

Non-Isolated Thermocouple Input Module



INPUTS	SENSORS	UPDATE	SOURCE
32 differential	**J, K, T**	**50 ms maximum**	**9720077-012**

Triconex 3706A provides 32 differential, DC-coupled thermocouple inputs for types J, K and T. Its triplicated channels perform linearization and cold-junction compensation, returning signed temperature data in Celsius or Fahrenheit.

01 VERIFIED PRODUCT PARAMETERS

Supported thermocouples	J, K, T
Input signals	32 differential, DC-coupled
Open-input detection	Upscale or downscale, selected on termination module
Input update rate	50 ms maximum; see firmware hot-spare restriction
Input resistance	22 Mohm DC, typical
Input point protection	110 VAC continuous without damage
Common-mode noise rejection	-85 dB minimum at 0-60 Hz; -95 dB typical at 60 Hz
Normal-mode noise rejection	-17 dB at 60 Hz
Common-mode voltage range	+/-10 VDC maximum, channel-to-channel or channel-to-ground
Channel-to-channel isolation	200 kohm typical; non-isolated module

Technical values were verified against Invensys 9700077-012, February 2009.

02 ADDITIONAL TECHNICAL DATA

Reference-junction compensation range	0-60 degrees C
Temperature data format	16-bit signed integer; 0.125 degree per count
Auto-calibration interval	Every 5 seconds, with reference-junction compensation
Burnout indication values	+32767 upscale; -32767 downscale
Logic power	Less than 10 W

03 SYSTEM ROLE AND APPLICATIONS

Use the correct external termination module, maintain a uniform termination temperature and keep common-mode voltage within +/-10 VDC. The manufacturer warns that rapidly changing inputs can cause channel mis-comparisons; later NITC firmware also freezes inputs briefly when a hot spare is inserted.

- Read connected J, K or T thermocouples through the configured input module. Select thermocouple type and Celsius or Fahrenheit engineering units in TriStation, then verify the reported temperature against a known input.
- Use the termination-selected upscale or downscale burnout indication in the engineered application. An open or out-of-range input is reported as a defined signed integer, which must be handled deliberately by the control logic.
- Use the termination-mounted temperature transducers for reference-junction compensation. Keep the termination assembly at a uniform temperature; thermal gradients are excluded from the published accuracy allowance.

04 OFFICIAL INSTALLATION FACTS

- Confirm the 3706A non-isolated module and configured J, K or T sensor type.
- Install and connect the required external field termination panel.
- Short unused thermocouple inputs as required by the installation section.
- Keep common-mode voltage within +/-10 VDC and termination temperature uniform.

05 OFFICIAL DOCUMENTATION

Invensys 9700077-012, February 2009

AMIKON PRODUCT SUPPORT

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