

PRESYS®

SCANNY-8000



Technical Manual

EM0509-00

Table of Contents

1 - Expanding Calibration Capacity and Productivity	1
2 - Multiple Connections with the Scanny-8000	1
3 - Simple and Intuitive Channel Selection.....	2
4 - Automatic Mode for Efficient Calibrations	2
5 - Manual Mode for Customized Control	2
6 - Maintaining Accuracy with Excellent Relay Features.....	2
7 - High-Performance Cold Junction Error Compensation	2
8 - Bidirectional Signal Distribution.....	2
9 - Compatibility with Advanced Line Calibrators.....	3
10 - Scanny-8000 Features.....	3
11 – Input Technical Specifications of the TA-25N Dry Block with Scanny-8000	4

1 - Expanding Calibration Capacity and Productivity



SCANNY-8000

The Scanny-8000 is a device designed to increase the input connection capacity (RTD, TC, mA) of calibrators from the Advanced line. It allows expanding a single connection to up to 8 inputs, providing greater flexibility and productivity in your calibration operations.

2 - Multiple Connections with the Scanny-8000

One of the main advantages of the Scanny-8000 is its grouping capability. Several Scanny-8000 devices can be connected simultaneously via RS-485 communication, enabling the expansion of your calibration capabilities by grouping up to 10 devices to meet specific needs.

3 - Simple and Intuitive Channel Selection

The Scanny-8000 facilitates the selection of input channels with the help of LEDs that clearly indicate the selected channel. This functionality is available in both automatic and manual modes, ensuring intuitive and efficient control of calibration operations.

4 - Automatic Mode for Efficient Calibrations

In automatic mode, the Scanny-8000 can perform calibrations on multiple sensors controlled by programs stored in the Advanced Dry Blocks. This simplifies and speeds up the calibration process, making it more efficient and reliable.

5 - Manual Mode for Customized Control

For users who want more control over the calibration process, the Scanny-8000 offers a manual mode of operation. This allows manual selection of the desired channel, providing total flexibility in operations.

6 - Maintaining Accuracy with Excellent Relay Features

The Scanny-8000 uses high-reliability relays that ensure the integrity of measured signals. With a maximum input voltage of 50 VDC, offset voltage less than $3\mu\text{V}$, and relay resistance lower than $10\text{ m}\Omega$, you can trust the accuracy of the measurements.

7 - High-Performance Cold Junction Error Compensation

The Scanny-8000 internally includes an isothermal block with multiple sensors that offer very high-performance cold junction error compensation. This ensures reliable and accurate thermocouple measurements.

8 - Bidirectional Signal Distribution

In addition to expanding connection capacity, the Scanny-8000 has the ability to reverse the signal from the input to the output and vice versa. This allows the device to be used as a signal distributor, offering even more flexibility in calibration operations.

9 - Compatibility with Advanced Line Calibrators

By connecting the Scanny-8000 to the input of any calibrator from the Advanced line, you can be sure that the technical specifications will not be altered, except for the cold junction error compensation mentioned earlier.

10 - Scanny-8000 Features

- Maximum input voltage: 50 VDC
- Offset Voltage: < 3 μ V
- Maximum relay resistance: < 10 m Ω
- Cold junction compensation error: < 0.3 °C
- 8 channels
- Switching type: Kelvin with 4 contacts (2 for voltage, 2 for current)
- Relay type: Remanent
- Channel indication by LEDs
- Digital CJC Sensor
- Communication: RS-485
- Power supply: 8 VDC
- Dimensions: 46 x 167 x 237 mm (HxWxD)
- Weight: 1,5 kg
- Plug and Play with Advanced line

The Scanny-8000 is a versatile and reliable solution to expand your calibration capabilities, offering greater flexibility and reliability in your operations.

As a performance example, we present below the technical specifications of the Scanny-8000 connected to a TA-25N Dry Block. For other temperature bath calibrator models, the technical specifications remain as explained in the previous text, except for the cold junction error.

11 - Input Technical Specifications of the TA-25N Dry Block with Scanny-8000

Input	Resolution	Accuracy	Remarks
millivolt -150 mV to 150 mV 150 mV to 2450 mV	0.001 mV 0.01 mV	$\pm 0.01\% \text{ FS}^*$ $\pm 0.02\% \text{ FS}$	$R_{\text{input}} > 10 \text{ M}\Omega$ auto-range
mA -1 mA to 24.5 mA	0.0001 mA	$\pm 0.02\% \text{ FS}$	$R_{\text{input}} < 120 \Omega$
resistance 0 to 400 Ω 400 to 2500 Ω	0.01 Ω 0.01 Ω	$\pm 0.01\% \text{ FS}$ $\pm 0.03\% \text{ FS}$	excitation current 0.85 mA auto-range
Pt-100 -200 to 850 $^{\circ}\text{C}$ / -328 to 1562 $^{\circ}\text{F}$	0.01 $^{\circ}\text{C}$ / 0.01 $^{\circ}\text{F}$	$\pm 0.1\% \text{ C}$ / $\pm 0.2\% \text{ F}$	IEC 60751
Pt-1000 -200 to 400 $^{\circ}\text{C}$ / -328 to 752 $^{\circ}\text{F}$	0.1 $^{\circ}\text{C}$ / 0.1 $^{\circ}\text{F}$	$\pm 0.1\% \text{ C}$ / $\pm 0.2\% \text{ F}$	IEC 60751
Cu-10 -200 to 260 $^{\circ}\text{C}$ / -328 to 500 $^{\circ}\text{F}$	0.1 $^{\circ}\text{C}$ / 0.1 $^{\circ}\text{F}$	$\pm 2.0\% \text{ C}$ / $\pm 4.0\% \text{ F}$	Minco 16-9
Ni-100 -60 to 250 $^{\circ}\text{C}$ / -76 to 482 $^{\circ}\text{F}$	0.1 $^{\circ}\text{C}$ / 0.1 $^{\circ}\text{F}$	$\pm 0.2\% \text{ C}$ / $\pm 0.4\% \text{ F}$	DIN-43760
TC-J -210 to 1200 $^{\circ}\text{C}$ / -346 to 2192 $^{\circ}\text{F}$	0.1 $^{\circ}\text{C}$ / 0.1 $^{\circ}\text{F}$	$\pm 0.2\% \text{ C}$ / $\pm 0.4\% \text{ F}$	IEC 60584
TC-K -270 to -150 $^{\circ}\text{C}$ / -454 to -238 $^{\circ}\text{F}$	0.1 $^{\circ}\text{C}$ / 0.1 $^{\circ}\text{F}$	$\pm 0.5\% \text{ C}$ / $\pm 1.0\% \text{ F}$	IEC 60584
TC-K -150 to 1370 $^{\circ}\text{C}$ / -238 to 2498 $^{\circ}\text{F}$	0.1 $^{\circ}\text{C}$ / 0.1 $^{\circ}\text{F}$	$\pm 0.2\% \text{ C}$ / $\pm 0.4\% \text{ F}$	IEC 60584
TC-T -260 to -200 $^{\circ}\text{C}$ / -436 to -328 $^{\circ}\text{F}$	0.1 $^{\circ}\text{C}$ / 0.1 $^{\circ}\text{F}$	$\pm 0.6\% \text{ C}$ / $\pm 1.2\% \text{ F}$	IEC 60584
TC-T -200 to -75 $^{\circ}\text{C}$ / -328 to -103 $^{\circ}\text{F}$	0.1 $^{\circ}\text{C}$ / 0.1 $^{\circ}\text{F}$	$\pm 0.4\% \text{ C}$ / $\pm 0.8\% \text{ F}$	IEC 60584
TC-T -75 to 400 $^{\circ}\text{C}$ / -103 to 752 $^{\circ}\text{F}$	0.1 $^{\circ}\text{C}$ / 0.1 $^{\circ}\text{F}$	$\pm 0.2\% \text{ C}$ / $\pm 0.4\% \text{ F}$	IEC 60584
TC-B 50 to 250 $^{\circ}\text{C}$ / 122 to 482 $^{\circ}\text{F}$	0.1 $^{\circ}\text{C}$ / 0.1 $^{\circ}\text{F}$	$\pm 2.5\% \text{ C}$ / $\pm 5.0\% \text{ F}$	IEC 60584
TC-B 250 to 500 $^{\circ}\text{C}$ / 482 to 932 $^{\circ}\text{F}$	0.1 $^{\circ}\text{C}$ / 0.1 $^{\circ}\text{F}$	$\pm 1.5\% \text{ C}$ / $\pm 3.0\% \text{ F}$	IEC 60584
TC-B 500 to 1200 $^{\circ}\text{C}$ / 932 to 2192 $^{\circ}\text{F}$	0.1 $^{\circ}\text{C}$ / 0.1 $^{\circ}\text{F}$	$\pm 1.0\% \text{ C}$ / $\pm 2.0\% \text{ F}$	IEC 60584
TC-B 1200 to 1820 $^{\circ}\text{C}$ / 2192 to 3308 $^{\circ}\text{F}$	0.1 $^{\circ}\text{C}$ / 0.1 $^{\circ}\text{F}$	$\pm 0.7\% \text{ C}$ / $\pm 1.4\% \text{ F}$	IEC 60584
TC-R -50 to 300 $^{\circ}\text{C}$ / -58 to 572 $^{\circ}\text{F}$	0.1 $^{\circ}\text{C}$ / 0.1 $^{\circ}\text{F}$	$\pm 1.0\% \text{ C}$ / $\pm 2.0\% \text{ F}$	IEC 60584
TC-R 300 to 1760 $^{\circ}\text{C}$ / 572 to 3200 $^{\circ}\text{F}$	0.1 $^{\circ}\text{C}$ / 0.1 $^{\circ}\text{F}$	$\pm 0.7\% \text{ C}$ / $\pm 1.4\% \text{ F}$	IEC 60584
TC-S -50 to 300 $^{\circ}\text{C}$ / -58 to 572 $^{\circ}\text{F}$	0.1 $^{\circ}\text{C}$ / 0.1 $^{\circ}\text{F}$	$\pm 1.0\% \text{ C}$ / $\pm 2.0\% \text{ F}$	IEC 60584
TC-S 300 to 1760 $^{\circ}\text{C}$ / 572 to 3200 $^{\circ}\text{F}$	0.1 $^{\circ}\text{C}$ / 0.1 $^{\circ}\text{F}$	$\pm 0.7\% \text{ C}$ / $\pm 1.4\% \text{ F}$	IEC 60584
TC-E -270 to -150 $^{\circ}\text{C}$ / -454 to -238 $^{\circ}\text{F}$	0.1 $^{\circ}\text{C}$ / 0.1 $^{\circ}\text{F}$	$\pm 0.3\% \text{ C}$ / $\pm 0.6\% \text{ F}$	IEC 60584
TC-E -150 to 1000 $^{\circ}\text{C}$ / -238 to 1832 $^{\circ}\text{F}$	0.1 $^{\circ}\text{C}$ / 0.1 $^{\circ}\text{F}$	$\pm 0.1\% \text{ C}$ / $\pm 0.2\% \text{ F}$	IEC 60584
TC-N -260 to -200 $^{\circ}\text{C}$ / -436 to -328 $^{\circ}\text{F}$	0.1 $^{\circ}\text{C}$ / 0.1 $^{\circ}\text{F}$	$\pm 1.0\% \text{ C}$ / $\pm 2.0\% \text{ F}$	IEC 60584
TC-N -200 to -20 $^{\circ}\text{C}$ / -328 to -4 $^{\circ}\text{F}$	0.1 $^{\circ}\text{C}$ / 0.1 $^{\circ}\text{F}$	$\pm 0.4\% \text{ C}$ / $\pm 0.8\% \text{ F}$	IEC 60584
TC-N -20 to 1300 $^{\circ}\text{C}$ / -4 to 2372 $^{\circ}\text{F}$	0.1 $^{\circ}\text{C}$ / 0.1 $^{\circ}\text{F}$	$\pm 0.2\% \text{ C}$ / $\pm 0.4\% \text{ F}$	IEC 60584
TC-L -200 to 900 $^{\circ}\text{C}$ / -328 to 1652 $^{\circ}\text{F}$	0.1 $^{\circ}\text{C}$ / 0.1 $^{\circ}\text{F}$	$\pm 0.2\% \text{ C}$ / $\pm 0.4\% \text{ F}$	DIN-43710
TC-C 0 to 1500 $^{\circ}\text{C}$ / 32 to 2732 $^{\circ}\text{F}$	0.1 $^{\circ}\text{C}$ / 0.1 $^{\circ}\text{F}$	$\pm 0.5\% \text{ C}$ / $\pm 1.0\% \text{ F}$	W5Re / W26Re
TC-C 1500 to 2320 $^{\circ}\text{C}$ / 2732 to 4208 $^{\circ}\text{F}$	0.1 $^{\circ}\text{C}$ / 0.1 $^{\circ}\text{F}$	$\pm 0.7\% \text{ C}$ / $\pm 1.4\% \text{ F}$	W5Re / W26Re

The accuracy values are valid for one year at a temperature range of 20 to 26 $^{\circ}\text{C}$. Outside this range, the thermal stability is 0.001% FS/ $^{\circ}\text{C}$ with reference to 23 $^{\circ}\text{C}$. For thermocouples with internal cold junction compensation, consider a compensation error of up to $\pm 0.3\% \text{ C}$ ($\pm 0.6\% \text{ F}$).



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