

## FEATURES

- Universal input
- Advanced - Dual microcontroller based
- User programmable
  - Alarm logic
  - Relay grouping
  - Sensor break logic
  - Channel name - 3 digit
  - Units display
- Front panel calibration
- 20000 count optically isolated ADC
- Self diagnostics with error code
- Universal power supply



### OPTIONAL:

- RS232 / RS485 communications for DAS front end applications
- MicroDAS software for single or multi scanner applications

MCS831E-ADX is the latest series of advanced cost effective temperature and process scanners from Micro Systems & Controls.

It incorporates advanced software features and a dual micro controller based design to provide complete user flexibility and can cater to almost all monitoring and data acquisition needs of the user. It can be user programmed to cover different application needs thus reducing time, inventory and spares cost. It accepts direct signals from thermocouples, RTDs and linear voltage and current inputs, either as fixed type or programmable universal input. Each channel is sequentially scanned and active channels are displayed, Individual channels can be locked for monitoring using the HOLD key. Flexible alarm logic and grouping is provided to energize alarm relay outputs as per the process parameter values and programmed set points.

Serial communication options are provided to enable the scanner to be used in DAS front-end applications. Optional windows based MicroDAS software is also available from 8 to 128 channels for monitoring and data logging using multidrop RS485 option.

### INPUT TABLE

INPUTS	TYPE & RANGE	RESOLUTION
Thermocouple	8types: J = 0 to 700°C, K = 0 to 1200°C, R= -50 to 1765°C, S= 0 to 1766°C, T= -100 to 400°C, E= -100 to 1000°C, B= 250 to 1820°C, N= 0 to 1800°C	1 digit
RTD	PT100 = -200 to 600°C, PT100 = -199.9 to 400.0°C, PT46 = 0 to 200°C, Ni100 = 0 to 200°C, Cu53 = 0 to 150°C, Others consult factory	1 and 0.1
DC Volts	0 to 5V or 1 to 5V Range -1999 to +9999 programmable.	1 to 0.001
mA	0 to 20mA or 4 to 20mA Range -1999 to +9999 using 150 ohms conditioning resistance.	1 to 0.001

**SPECIFICATIONS:**

Inputs	Refer input table, Universal or Fixed group or single input
No of channels	8, 12 or 16 channels
Input Connections	Rugged user friendly 45 Deg screw terminals suitable for 0.2 to 2.5 mm sq mm cable
Input Impedance	> 1 Meg Ohm
Output	Up to 8 Relays. (For 2 C/O application use 2 relays per output)
Relay Grouping	Programmable – Any alarm can be assigned to any relay
Relay Rating	1 C/O, 5 Amps / 230VAC resistive max.
Alarm set points	Two individual alarm settings per channel
Display	12.7 mm, 7segment Red LED- 2 digits for channel value, 4 digits for process value. 3 digits user programmable multi function display (Name, Units, Type etc) Status LEDs: Prog, Run, Hold, Error, Tx, Rx & Deg C.
Alarm LEDs	Individual A1 & A2 LEDs per channel, Latching or non Latching
ADC	20,000 count optically isolated ADC with dedicated microcontroller
Compensations	Automatic - Cold junction for TC, Wire resistance for RTDs
Accuracy	+/- 0.1 % FS, +/- 1 count
Resolution	Programmable as per Input table.
Noise Rejection	Common mode 120 dB or better, Series mode 60dB or better.
Alarm Logic	Programmable High, Low, Very High, Very Low Latching & Non Latching
Display Scan	1 to 99 seconds programmable, Auto and Manual with HOLD
Internal Scan Rate	10 channels per second
Communications	Optional RS232 or RS485, MSC ASCII or MODBUS RTU
Software	Optional Windows MicroDAS data acquisition package for single or multi scanner
Battery Backup	Non-volatile EEPROM, Battery not required.
Power Supply	Universal 90-260VAC or 110 to 250VDC, 10VA max
Sensor break / Error	Programmable Enable or Disable Alarm with 'open' / 'short' indication.
Protection	Password protection for configuration, Watchdog for system monitoring.
Environment	Temp: -10 to + 60 Deg C Max, RH: Up to 95% non condensing
Enclosure	Robust metallic powder coated enclosure with plastic bezel.
Protection Class	IP65 Front panel
Mounting	Flush on panel with screw type clamps 2 Nos
Dimensions	External: 96(W) X 192 (H) X 250 (D) mm.
Panel Cutout	92 -0, +1 mm X 186 -0, +1 mm Vertical, Depth behind panel: 240 mm
Weight	1.5 Kg Approx
Accessories:	2 Nos Screw clamps for mounting. 150 Ohms conditioning resistances if 4 to 20mA inputs provided.

**ORDERING CODE:**



**CHANNELS:** 0 = 8, 1 = 12, 2 = 16

**RELAYS:** 0 =NONE, 1 =2, 2 =4, 3 =6, 4 =8RL

**INPUTS:**  
0 = UNIVERSAL, 1 = TC, 2 = RTD, 3 = VOLT,  
4 = mA

**OPTIONS:**  
0=NONE, 1 =RS232,  
2=RS485

**SAMPLE ORDER CODE**  
**904-014-02**  
12 CHANNEL,  
8 RELAYS, UNIVERSAL  
INPUT, RS485 OPTION

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