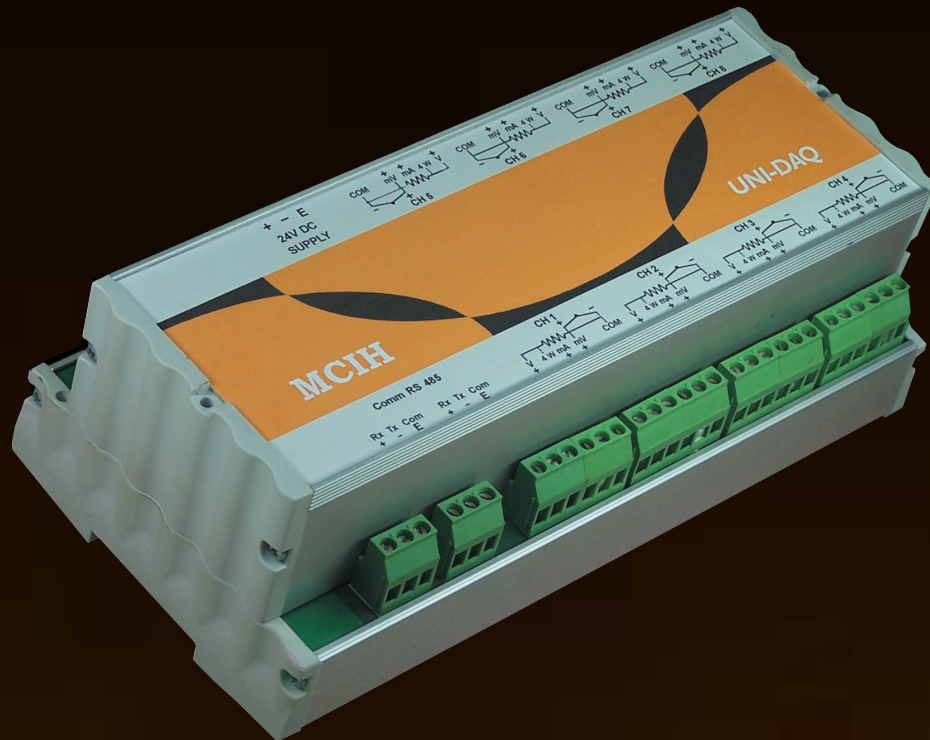


UNIVERSAL INPUT DATA ACQUISITION MODULE



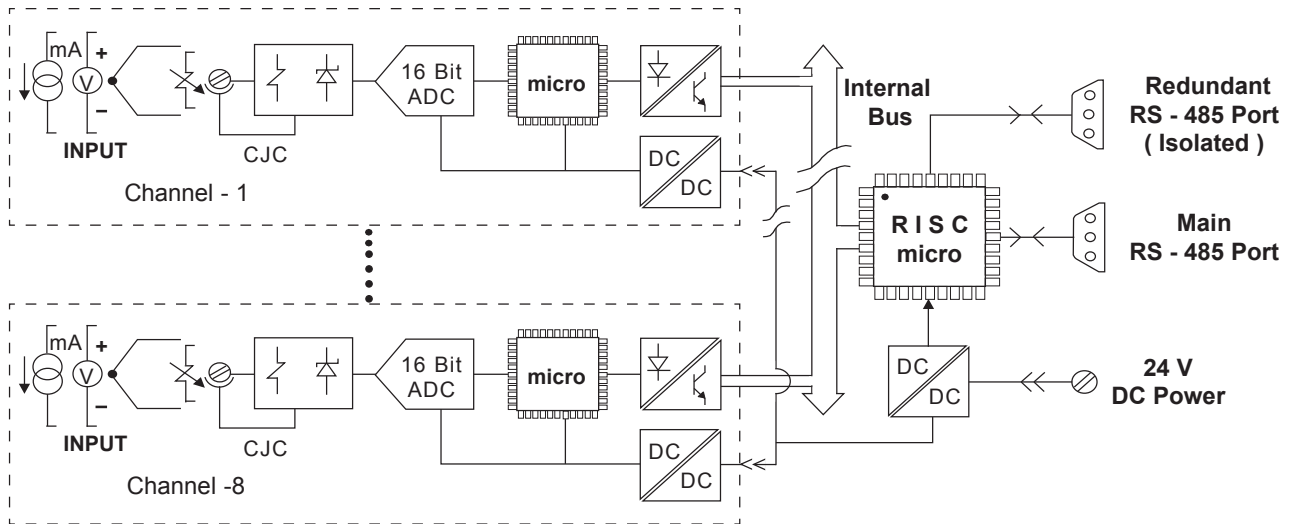
- ✦ Universal Inputs.
- ✦ 16 bit Sigma Delta A/D.
- ✦ Inter Channel isolation .
- ✦ Dual Redundant Com Ports.
- ✦ Easily expandable.
- ✦ MODBUS Connectivity.



UNIDAQ

ABOUT UNIDAQ

'UNIDAQ' is an isolated eight channel Data Acquisition Module, featuring universal input capabilities. The module conditions the signals, converts them into digital data and transmits as modbus compatible RS - 485 output. Several 'UNIDAQ' modules can be integrated to form a PC - based Data Acquisition system. This makes it scalable when there is need for expansion.



UNIDAQ - FUNCTIONAL SCHEMATIC

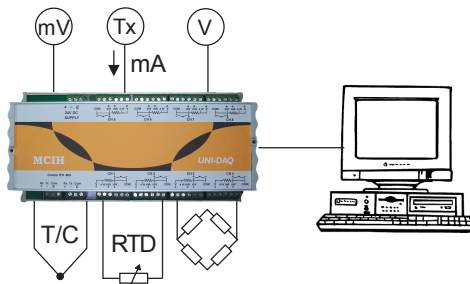
'UNIDAQ' employs cutting edge signal conditioning technology to offer the best accuracy and performance reliability in harsh industrial environments. Each channel of the module has standalone - isolated electronics integral with frontend protection circuits, 16-bit A/D converter and a micro controller. Thus intelligence is embedded at every channel to ensure flexibility and speed of data conversion. As the channels are engineered to be separate physical entities with opto isolation, best CMRR and output stability is achieved even at the presence of dangerously high common mode voltages or ground loop disturbances.

Unidaq has a unique architecture, wherein each input channel has its own CJC sensor embedded in to the terminals, to enhance thermocouple measurement accuracy. All the eight channels perform the measurement simultaneously and the digital data is collected by a module resident RISC host controller to optimise scan time. Unidaq has isolated dual redundant RS- 485 ports, to enable redundant data acquisition.

UNIDAQ is DIN RAIL mountable and is suitable for installation in control room or in the field near the process when mounted in IP - 65 enclosures. As UNIDAQ modules can be distributed over the field, long runs of sensitive sensor cabling can be eliminated thus minimizing the cost. As only digital signal is transmitted from field, noise immunity is enhanced many fold.

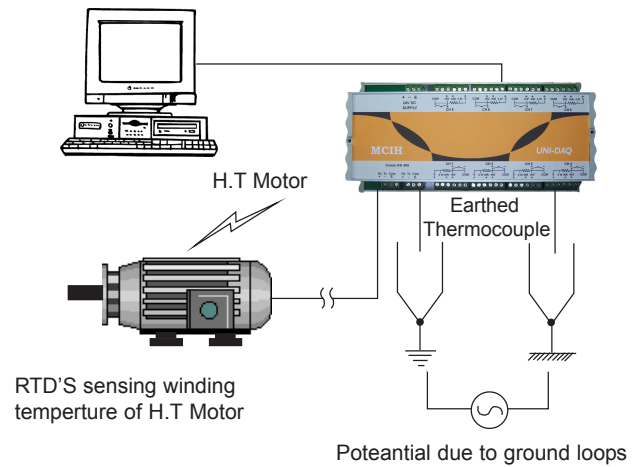
APPLICATION AREAS

MULTITUDE OF SIGNALS - ONE MODULE



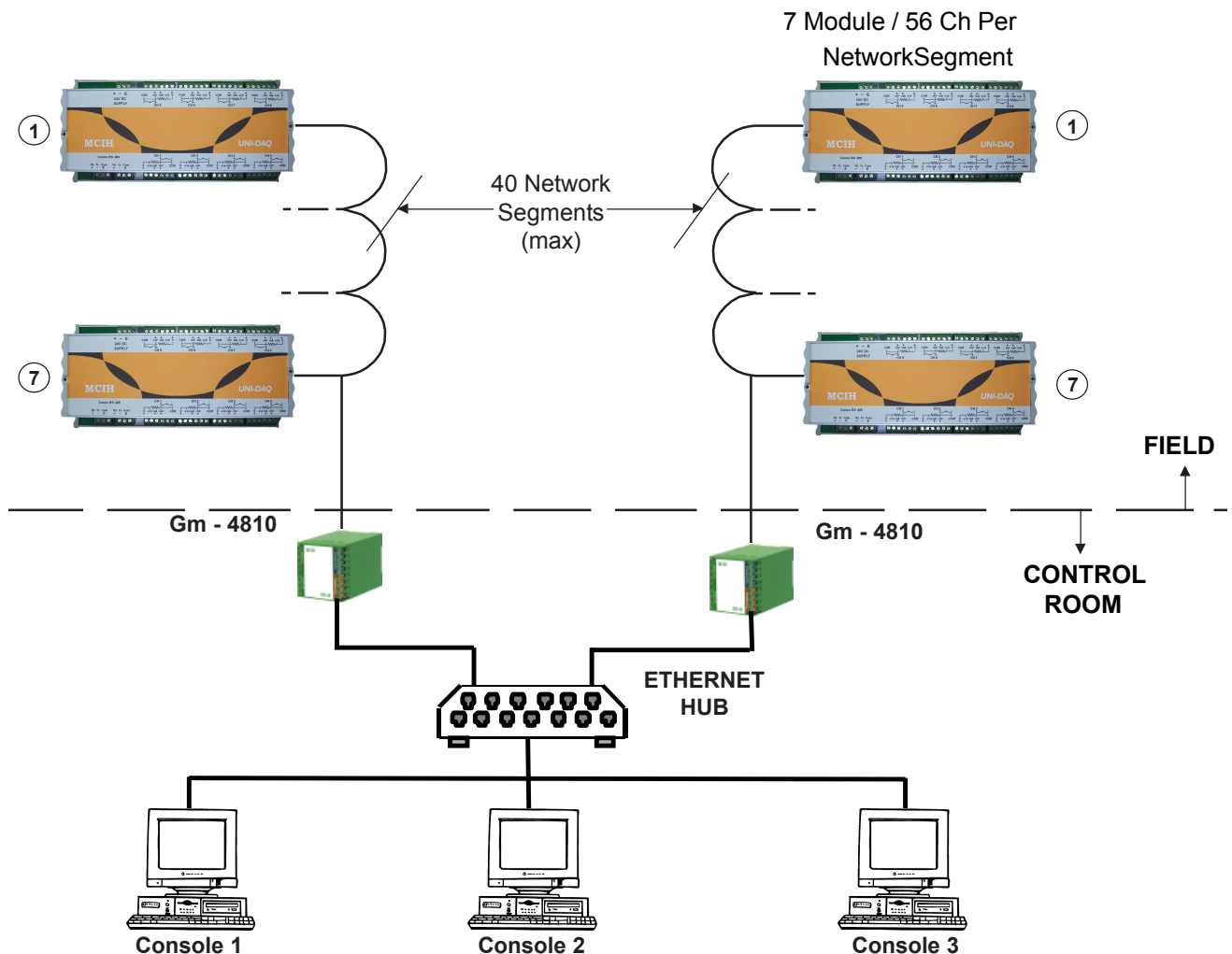
- ✦ Simplifies Inventory
- ✦ Terminal embedded CJC Sensor
 - Accurate T/C Measurement
- ✦ No Input MUX
 - Enhanced Reliability

WINDING EMBEDDED RTDs & GROUNDED THERMOCOUPLES



DISTRIBUTED & SCALABLE ARCHITECTURE

UNIDAQs can be seamlessly integrated to build Data Acquisition System which is scalable up to 2240 Analog Channels with an unsurpassed 100 millisecond channel update interval. As each UNIDAQ module has a localized control processor in it, expanding the DAQ system seldom affects the system speed or performance.



SPECIFICATIONS

INPUT TYPE & ACCURACY

Input	Basic Range	Accuracy
J	-180 to 760°C	± 0.4°C
K	-180 to 1372°C	± 0.4°C
E	-50 to 1000°C	± 0.4°C
T	-200 to 400°C	± 0.4°C
R	0 to 1768°C	± 1.5°C
S	0 to 1768°C	± 1.5°C
B	400 to 1820 °C	± 1.5°C
C	0 to 2320°C	± 0.8 °C
N	- 180 to 1300°C	± 1.2°C
Pt-100(a385)	- 200 to 850°C	± 0.3°C
Pt-500(a385)	- 200 to 850°C	± 0.3°C
Pt-100(a392)	- 200 to 850°C	± 0.3°C
Ni-120	- 80 to 260°C	± 0.3 °C
mV1	-35 to +35	± 0.04 % FS
mV2	-70 to +70 mV	± 0.04 % FS
mV3	-140 to +140 mV	± 0.04 % FS
Ohms1	0 to 400 Ω	± 0.04 % FS
Ohms2	0 to 2000 Ω	± 0.04 % FS
Ohms3	0 to 4000 Ω	± 0.04 % FS
mA	0 to 20 mA	± 0.04 % FS
V1	-5V to 5V	± 0.04 % FS
V2	-10V to 10V	± 0.04 % FS

GENERAL SPECIFICATION

Power Supply	: 20 - 35 V DC / 150 mA (max)
Operating Temp	: 0 to 55 °C
Storage Temp	: 0 to 70 °C
Humidity	: 0 - 95% Non condensing

PROTECTION PARAMETERS

Input Voltage ¹	: 24 V AC Peak/DC (max)
Input Current ²	: 50 mA (max).
Common mode ³	: 600V AC Peak/DC (max).

COMMUNICATION SPECIFICATION

Primary Com Port	: Modbus compatible - RS-485
Auxiliary Com Port	: (Optional) isolated RS-485
Band Rate	: 38.4 kbps (max).
Update rate ⁴	: 100msec / channel.
MaxNo.of Channels ⁵	: 2240 channels

NOTE 1 : Differential voltage between any pair of terminals.

NOTE 2 : Between current terminals.

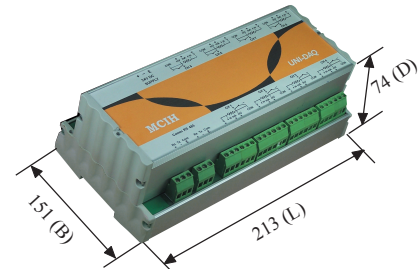
NOTE 3: Between Channels / Between Input and Com Port / Between Comport and Earth.

NOTE 4 : Upto 7 modules or 56 channels per network segment, through Gate way module GM4810.

NOTE 5: 2240 channels (40 network segments) linked through Gate way module GM4810 which are inter connected through Ethernet Hub to PC / Supervisory system.

DIMENSIONS

Dimensions	: 213(L) X 151(B) X 74(D) mm (occupies 213mm of DIN RAIL space)
Material	: Anodised Aluminum
Protection	: IP 54
Mounting	: 35 mm Top hat DIN RAIL.



ORDERING INFORMATION

DESCRIPTION	MODEL
8 Channel Universal Data Acquisition Module with one RS - 485 Port	UNIDAQ 0801
8 Channel Universal Data Acquisition Module with Dual Redundant RS - 485 Port	UNIDAQ 0802

RELATED MODULES

DESCRIPTION	MODEL
Gateway Module RS 485 to Ethernet (for PC LAN connectivity)	GM 4810

MEDICAL & CONTROL INSTRUMENTS HOUSE (I) PVT. LTD

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Specifications are subject to change with out any notice due to continuous development.