MCIH

PROGRAMMABLE CONTROLLERS

FEATURES

✦ **Wide choice of Input types.**

✦ **Built-in Transmitter Powering.**

✦ **Configurable control parameters.**

✦ **Autotune capability.**

✦ **Control output options.**

✦ **Contact / Analog ouput options.**

✦ **5 digit Dual display.**

✦ **Linearisation of T/C & RTD inputs.**

✦ **Realisitic cold junction compensation.**

✦ **Display in Engineering units.**

About *Fastrak* . . . . . .

Fastrak from MCIH is a microcontroller based PID controller with Auto tuning algorithm embedded in the software of the instrument. The instrument has powerful hardware capabilities like universal inputs, Transmitter powering, Terminal embeded cold junction sensor and front keypad for user configuration. The controller has various control output options to suit any type of end control element. The powerful embeded software of the controller provides complete access to the configuration of the various parameters of the controller from front panel. This offers the best operational reliability by elemeinating switch settings, jumper selection and trimpot adjustments.

Fastrak is offered in four different models to give cost effective and optimised solutions covering every control requirement.

Fastak – **CN**, *Fastrak* – **DN** are PID controllers with Time proportional contact output mainly intended for temperature control applications with T/C or RTD as input. The model does not support an analog output.

Fastrak – **CA**, *Fastrak* – **DA** are with analog output and contact output options configurable through software (refer to ordering code).

Tx-powering, Square root option and linearisation of T/C & RTD inputs are features common to all modules.

GENERAL SPECIFICATIONS

Power Supply	: 90 to 270V AC/ 50 to 60 Hz.(4W)	**Humidity**	: 0-90% (Non Condensing).
Operating Temp	: 0 to 55 °C.	**Mounting**	: Flush panel.
Storage Temp	: 0 to 70 °C.	**Bezel**	: 48 H X 96 W mm Fastrak - C
			96 H X 96 W mm Fastrak - D

DIMENSIONS : In mm and not to scale

Noryl enclosure

FASTRAK - C

FASTRAK - D
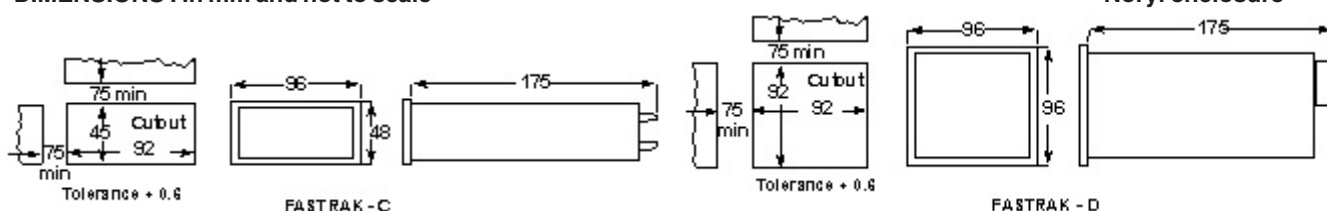
PERFORMANCE SPECIFICATIONS

INPUT

Types and Accuracy [3]

Input [1]	Range	Accuracy	
		Below 0°C	Above 0°C
T/C-J	-200 to 700 °C	±2°C	±1°C
T/C-K	-200 to 1200 °C	±2°C	±1°C
T/C-E	0 to 800 °C		±1°C
T/C-T	-200 to 400 °C	±2°C	±1°C
T/C-R&S	0 to 1700 °C		±5°C
T/C-B	200 to 1800 °C		±5°C
Pt-100	-200 to 850 °C	±1°C	±1°C
mV	-75 to 75 mV [2]	±0.1% FS	
Ohms 1	0 to 400 Ω [2]	±0.1% FS	
Ohms 2	0 to 6000 Ω [2]	±0.1% FS	

Input	Standard Ranges	Accuracy
mA 1	4-20 mA	±0.1% FS
mA 2	0-20 mA	±0.1% FS
V 1	1-5 V	±0.1% FS
V2	0-10 V	±0.1% FS

Input	User Defined Ranges	Accuracy
mA	0 to 20 mA [2]	±0.1% FS
V	-10 to 10 V [2]	±0.1% FS

Note 1 : All T/Cs as per NIST Monograph 125. Built in Cold Junction Compensation is provided. Pt 100 as per DIN 43760. T/C & RTD inputs are linearized. Range of temperature indicated refers to the working temperature range of respective thermocouple.
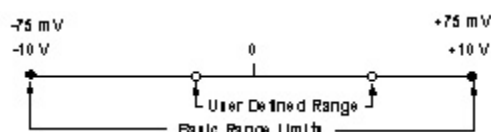
Note 2: Indicated values are Basic range limits. User can define any range confined within the Basic range limits indicated.
Note 3: Indication accuracy of Process Value.

DISPLAY

Type	:	5 digit Dual Display. (Fastrak-D only)
Size	:	14.2 mm , 8mm.
Range	:	-19999 to 30000 with 4 decimal points.

CONTROL PARAMETERS

Gain	:	0.1 to 1000.
Integral Time	:	0 - 6000 sec.
Derivative time	:	0 - 6000 sec.

CONTACT OUTPUTS

Type	:	Two change over contacts shared between Alarms and control output.
Rating	:	250V AC, 5Amp.

CONTROL MODES

Fastrak - CN, DN
❶ Time proportional PID
❷ ON -OFF control

Fastrak - CA, DA
❶ Continuous PID.
❷ Time proportional PID.
❸ ON - OFF control.

TYPE OF CONTROL OUTPUTS
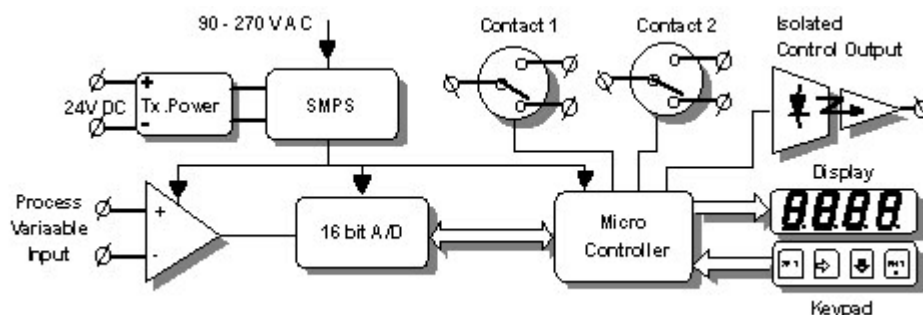
Fastrak - CN, DN
❶ Potential free contact.

Fastrak - CA,DA
❶ Isolated analog output. 0-20mA / 4-20mA / 0-5V / 1-5V /0-10V programmable Load : 600 Ω (max) for mA, 1KΩ (min) for V.
❷ Potential free contact.

IN-BUILT FUNCTIONS

Automatic CJC by IC sensor embedded in terminal.
Programmable Digital Filter.
User selectable Sq.rt / Linear, Auto / Manual modes.

FUNCTIONAL SCHEMATIC

ORDERING INFORMATION

Display & Bezel	Control Output	Model
Single & 48X96	Contact only	Fastrak - **CN**
Single & 48X96	Contact & Analog	Fastrak - **CA**

Display & Bezel	Control Output	Model
Dual & 96X96	Contact only	Fastrak - **DN**
Dual & 96X96	Contact & Analog	Fastrak - **DA**

Specifications are subject to change without any notice due to continuous development.