# 4"Inkless Recorder

## Series CR-2010

Inkless chart recorders from G-Tek is available in 4" and 6" chart size formats. Part of G-Tek's most popular series CR2010, they offer utmost reliability and versatility at an affordable price. Since the marking on the chart is through the pressurized needle, there is no need to worry about ink being exhausted or replacing the pen. Pressure sensitive papers are used instead of thermal papers o ensure that the marking is retained for longer period of time. These 4" recorders are widely used in low temperature equipment, blood banks, incubators and many more places. They come for RTD Pt-100 inputs, 4-20mA/ 0-1v process inputs. Standard chart speeds are 4Hr / 24Hr and 168Hr (7Day) per revolution. These recorders are microcontroller based. Crystal controlled chart drive ensures the good chart speed accuracy. Stepper motors for both pen and chart drive, ensures no lag and no backlash. With a cutout of 138X138 mm and smallest depth, makes it very convenient to use. Transparent polycarbonate door makes the chart visible from distance. They come with universal power supply as a standard feature. Other power supply inputs are also available.

## Features :

- 4" Chart Width
- Inkless Chart Recorder
- Pressure Sensitive paper for long retention of data
- Single Analog Input channe
- Universal Power Supply 85 264 V AC, 47-63 Hz
- Other power supply inputs on request
- Battery Back up
- Direct Input Standard Pt-100 sensor
- Process Input through 4-20mA / 0-20mA or 0-1V DC
- 7 Day for chart rotation
- Other chart rotation available on request

## Specifications :

### Pens :

| | |
|---|---|
| No. of Pens | 1; Pressurized needle |
| Pen Marking | Continuous |
| Pen Response Time | <5Sec (Full Scale) |
| Pen Response Time | Steppere Motor Controlled better then 0.1% FSD |
| Overshoot | None |

### Chart :

| | |
|---|---|
| Chart Speed | 7 days/rev; 24Hr/Rev and 4H/Rev |
| Chart Calibrated Radius | 1.3" (approx. 34 mm) |
| Chart Ranges | Standard (Refer Table 2) / Customized Please specify |

### Display, Operator Panels and Input :

| | |
|---|---|
| Display Type | None |
| Status Indicator | None |
| Panel Keys | Front panel KB consisting of 2 keys for programming and calibration |
| Analog Input | RTD Pt -100/0-1 V/4-20 mA/0-20 mA (External shunt resistance of 50 Ohm 0.1%) |
| Sensor Type and Range | Refer to Table 1 |
| Scan Rate | Continuous 1 reading per second |

### Protection :

| | |
|---|---|
| Input Impedance RTD/Volt | > 20 MΩ |
| Input Impedance mA | 50Ω Shunt External |
| CMRR | >100 dB@ 50, 60 Hz at 3 Sample per Second |
| NMRR | >50 dB@ 50, 60 Hz at 3 Samples per Second |
| Maximum Common Mode Voltage | 5V AC |
| Isolation Channel – EARTH | 1.5KV, 1 Minute |
| Isolation Channel - Channel | NA |
| Input Protection | 30V AC/DC max |
| Termination | Non interchangeable, Removable Plugs |
| Transmitter Power Supply | Non Isolated 15V DC; 30mA max, unprotected |

### Environmental:

| | |
|---|---|
| Temperature | (Operation)5°C to 45°C (Limiting) 0°C to 50°C (Storage)-20°C to 60°C |
| Humidity | (Operation) 10 to 80 % RH Non Condensing (Storage) 5 to 90 % RH Non Condensing |
| Altitude | <2000 meter |

### Power Requirement:

| | |
|---|---|
| Supply Voltage (Mains Operated) | 85-264 V AC 47-63Hz |
| Battery backup | Yes |
| DC Adapter Operated | Yes |
| Power | 7W Max With Maximum Configuration |
| Fuse Type | None |

### Battery Backup :

| | |
|---|---|
| Battery | 12V 7Ah External Lead Acid battery |
| Battery Charger | Yes |
| Battery Reverse Polarity | Protected |
| Minimum Back up | 24 Hrs. |

### Safety :

| | |
|---|---|
| Safety | IEC 61010-1 |
| EMI-EMI | EN 61326-1 Class A |
| Pollution Degree | ll |
| Installation Category | IV |
| Vibration | 2g Peak (10 Hz-150Hz) |
| Shock | IEC 61010-1 |
| IP Rating | IP 50 (Door and Bezel only) |

Table 1 Sensor Type, Range, Accuracy, and Max Error Specification

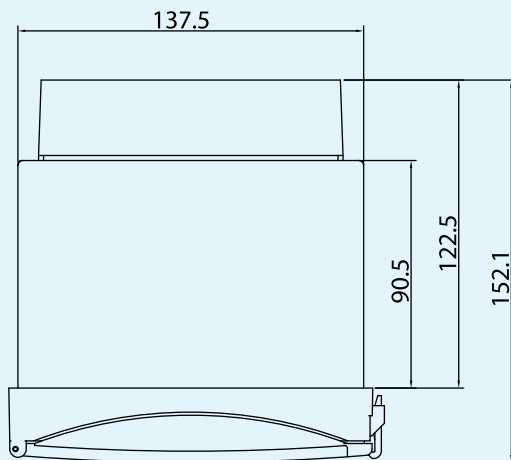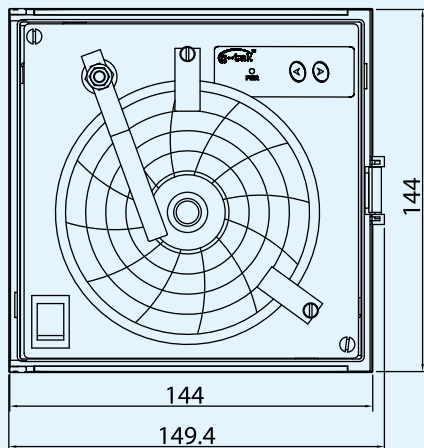| Input Type | Valid Input Range | Resolution Chart | Accuracy (FSD) | Linearization Error (Max) |
|---|---|---|---|---|
| PT-100(RTD)[#] | -100 to 600°C | 2% | ± 0.5% | ± 0.7°C |
| mA | 4-20mA | 2% | ± 0.5% | ± 0.1% |
| mA | 0-20mA | 2% | ± 0.5% | ± 0.1% |
| mV | 0-1 Volt | 2% | ± 0.5% | ± 0.1% |

#DIN 43760: α= 0.00385

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## Table 2 Standard Available Chart Ranges

| Chart Type XX | Range** | Speed | Part Number | Part Description |
|---|---|---|---|---|
| 07 | -10 to +32 | 7D | 200618 | W4-1032 PS# |
| 08 | +32 to -10 | 7D | 303010 | W432-10 PS# |
| 20 | Other Please Specify | | | |

*\*First value is at the center of the chart*      *# PS: Pressure Sensitive Chart Paper*

Select your ORDER Code:

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Exampale ORDER Code:

1 5 0 0 0 - 0 7 1 4 1

**Code : Recorder Type**
1 : CR4 NU

**Code : Pen Type**
5 : 1PS**
   ** Pressure Sensitive Pen

**Code : Power Supply**
0 : 85-264 V AC 47-63 Hz
1 : 12-15V DC
4 : 85-264V AC 47-63 Hz BB
5 : 85-264V AC 47-63 Hz BB With TS
7 : 85-264V AC 47-63 Hz With TS
8 : 24V DC, 1A
   BB=Battery Backup
   TS=Transmitter Supply

**Code : Relay**
0 : None

**Code : PC Interface**
0 : None

**Code : Chart Type**
XX : Refer Table 2

**Code : Range**
1 : Fixed, Same as Chart Type

**Code : Chart Speed**
4 : 7 Day / Rev
9 : Other, Please Specify

**Code : Sensor Type**
1 : RTD Pt -100: DIN 43760; α=0.00385
2 : 4 - 20 mA DC
3 : 0 - 20 mA DC
4 : 0-1V DC

Dimensions: 144, 149.4, 144, 137.5, 122.5, 90.5, 152.1

## Overall Dimension : (approx) :

| | |
|---|---|
| Dimension L x W x D (mm) | 144 x 144 x 91 |
| Panel Cutout (mm) (L x W) | 138 x 138 (+0.5) |
| Bezel (mm) | 144 x 144 |

Dealer / Representative
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CE

QUALITY SYSTEM CERTIFICATION
DNV·GL
ISO 9001

**g-tek**™
better by performance

Manufacturers of :
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Strip Chart Recorders
Inkless Recorders
Paperless Recorders
Scanners & Data Loggers
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