



Mother Nature tells you everything

SmartScreen™

...Paperless recorders





• Versatile:

Universal sensor input, standard DIN cut out, high-resolution display, universal power supply makes G-Tek's SmartScreen paperless recorders truly versatile

• Easy To Use:

User friendly and smart phone like features makes it very easy to use. Support of Indian languages makes it unique amongst the paperless recorders.

• Compact:

In a size of 164(H) x 221(W) x 138(D) mm, it packs maximum of 40 channels makes it the most compact in its category.

• High-Speed:

State-of-the-art AFE with 24 bit Σ - Δ ADC for each channel
With a scan rate of 70mSec for all the channels, it is equipped to record any of your fastest processes.

• Calibration:

With easy to use calibration features, onsite and at factory, it gives one of the highest accuracy in its class.

• Isolation:

It has full 2.5 KV isolation between channel and earth.

• Easy to Connect:

With MODBUS complaint TCP/IP protocol support, it is very easy to integrate in your network.
Full support of FTP server makes it easy to download stored data from the recorder.

• Software:

gtekNet™ a client-server based application is available to control multiple recorders remotely.
Downloading the stored data in PenDrive and transferring it in PC is also possible.

• 21 CFR Part 11 Compliant:

With 21CFR Part 11 compliance, rest assured about your data security. It has a built-in SD card of 16GB.
Data stored in SD card is encrypted and hence not possible to alter or edit.

• Analogue Inputs :

G-Tek offers fully non-isolated 8 channel analogue input per card with channel to earth isolated.

G-Tek's SmartScreen paperless recorders

- **Versatile**
- **Easy To Use**
- **Compact**

for all your
process-recording
requirement



Detailed Technical Specifications

Display and Operator Panels

| | |
|----------------------|---|
| Display Type : | TFT Color LCD |
| Display Size : | 7" |
| Viewable Screen : | 155mmX86mm |
| Display Resolution : | 800X480 pixels |
| Color Resolution : | 24bits |
| Touch Screen : | 10 finger Capacitive |
| Display Screen : | Digital View /Bar Chart / Horizontal trend/ Vertical Trend/ Circular Chart/ Menus and other user interface screen |
| Multilingual : | Multiple language support – Hindi, Gujarati, English, French, German and Portuguese |

General Specifications

| | |
|------------------------------------|--------------------------------------|
| CPU : | 1.2GHz 64-bit quad-core ARMv8 CPU |
| Internal Data Storage : | SD Card - 16 GB; Expandable to 32 GB |
| USB Host : | 1; In Front |
| Data Update Rate : | 2 Hz |
| Data Store Interval : | 1 Second to 18 Hours |
| 21CFR Part 11 Compliance : | Optional |
| Maximum No of Slots per recorder : | 5 |

Communication

| | |
|------------------------------|---|
| Communication Port: | 10/100Base T (IEEE 802.3) Ethernet Port |
| Connector : | RJ 45 |
| Protocols Supported : | MODBUS TCP/IP Slave; HTTPS; FTP |
| Communication Activity LED : | Yes |
| Isolation : | 1.5KV 1Minute; (As per IEC 61010-1) |

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 |

Safety / EMI-EMC

| | |
|-------------------------|------------------------------|
| EMI-EMC : | IEC 61326-1 Class B |
| Safety : | IEC 61010-1 |
| Pollution Degree : | II |
| Installation Category : | III |
| Vibration : | 2g Peak (10Hz-150Hz) |
| Shock : | IEC 61010-1 |
| IP Rating : | IP65 (For Front bezel only) |

Power Requirement:

| | |
|---|------------------------------------|
| Supply Voltage (Mains Operated through adapter) : | 85-265VAC 47-63Hz |
| Power : | 35W Max with Maximum Configuration |
| Fuse Type : | None |

Analog Input Board

| | |
|-------------------------------------|--|
| No. of Input Channel Per Board : | 8 |
| No. of Slots consumed per Board : | 5 |
| Sensor Input Type; | |
| Range and Accuracy : | Refer to Table 1 |
| Linearization : | For RTD; Thermocouples; Square Root; 3/2 Power; 5/2 Power; Log10 |
| Linearization Error : | ± 0.05 ° Max |
| Resolution : | User Settable up to 0.0001 |
| CJC Accuracy : | ± 0.5 °C |
| Sensor Open/ Short / Out of Range: | Yes |
| Samples per Second : | Max 26 Samples per Second all Channels |
| Input Impedance RTD / TC / Volt : | >20 M Ω |
| Input Shunt for 4-20mA and 0-20mA : | 50 Ohm ±0.1% 1/4W External |

| | |
|-------------------------------|---|
| CMRR : | >120 dB @ 50, 60 Hz @ 50 Samples per Second |
| NMRR : | >87dB @ 50,60 Hz at 50 Samples per Second |
| Maximum Common Mode Voltage : | 30V DC |
| Isolation Channel – Earth : | 2.5KVrms 1minute (IEC 61010-1) |
| Input Protection : | 60V AC/DC Max |

Table-1 Accuracy At 25 Deg °C

| Sensor Type | Standard | Range (°C) | Error | Error % Input | Error % Range | Error Temperature Coef ppm/C |
|-------------|----------|---------------|---------|---------------|---------------|------------------------------|
| RTD Type | | | | | | |
| Pt 100 | IEC751 | -200 To + 850 | 0.01 °C | 0.04% | 0.04% | 30ppm |
| T/C Type | | | | | | |
| E | IEC584.1 | -100 To +1000 | 0.03 °C | 0.05% | 0.06% | 25ppm |
| J | IEC584.1 | -200 To +1200 | 0.02 °C | 0.05% | 0.06% | 25ppm |
| K | IEC584.1 | -200 To +1300 | 0.04 °C | 0.05% | 0.06% | 25ppm |
| N | IEC584.1 | -200 To +1300 | 0.04 °C | 0.05% | 0.06% | 25ppm |
| R | IEC584.1 | 0 To +1700 | 0.04 °C | 0.05% | 0.06% | 25ppm |
| S | IEC584.1 | 0 To +1700 | 0.04 °C | 0.05% | 0.06% | 25ppm |
| T | IEC584.1 | -200 To +400 | 0.02 °C | 0.05% | 0.06% | 25ppm |
| Volt | | | | | | |
| 0 To 1 Volt | - | ±9999 | - | 0.03% | 0.03% | 25ppm |
| ±1 Volt | - | ±9999 | - | 0.03% | 0.03% | 25ppm |
| 0 To 5 Volt | - | ±9999 | - | 0.03% | 0.03% | 25ppm |
| ±5 Volt | - | ±9999 | - | 0.03% | 0.03% | 25ppm |
| mA- DC | | | | | | |
| 4-20 mA | - | ±9999 | - | 0.03% | 0.03% | 25ppm |
| 0-20 mA | - | ±9999 | - | 0.03% | 0.03% | 25ppm |

Display Screen :

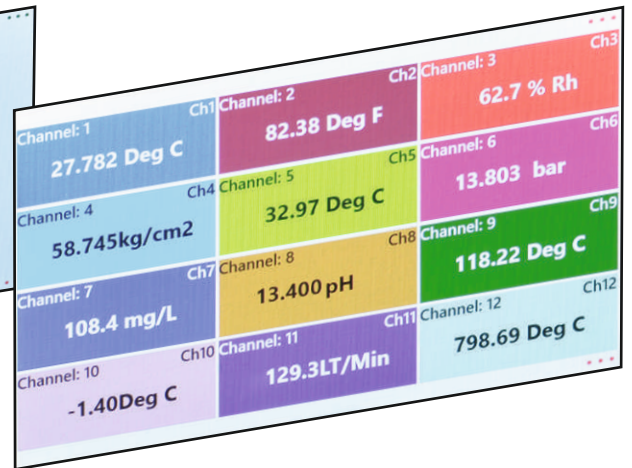
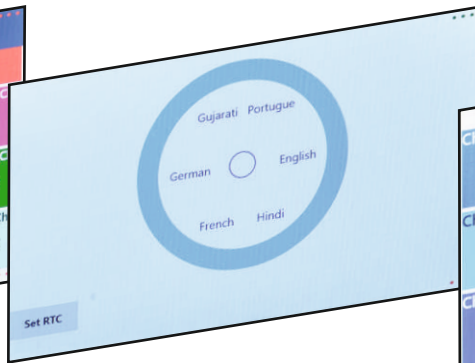
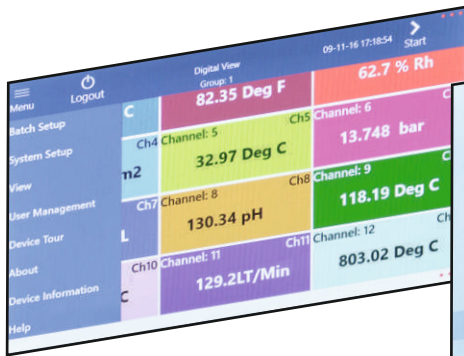
Smart screen series of recorders come with enhanced 7"LCD, 800x480 pixel display.

Multilingual Support :

For the first time, now a paperless recorder supports Indian languages. Languages like Hindi and Gujarati are supported along with other languages like English, German and Portuguese. It is possible to add other languages as well. So if you want your language to be included, you may contact us and we will be glad to add your language in the SmartScreen recorders.

Digital view:

It displays the instantaneous data of the channel. Channels are clubbed in a GROUP. There can be a maximum of 12 channels in a group and such six groups can be configured. Same channel can be in more than one group. These groups can be reconfigured before the start of the batch or while viewing historical data. Channels can be turned ON or OFF for viewing in a group. Channels will be still scanned and data stored.



• Network Connectivity:

These recorders are MODBUS TCP IP compliant. All the parameters of the recorders can be configured remotely. The recorder has built-in FTP server.

• Web Server:

These recorders have a built-in web server. User can see the data in tabular and graphical form using any standard browser from any networked connected PC. **No need to install any software.**

• Relay Output :

Each relay card has 4nos of fully isolated 1A; 230V resistive relays. User can assign any relay to any channel. Relay can be configured as High / Low for a given set point.

• gtekNet™ :

G-Tek's network software g-tekNet™ is a client-server application. SmartScreen easily integrates with this software. Using g-tekNet™ you can connect as many as SmartScreen recorders along with other host of equipment manufactured by g-tek and control it remotely. You can view the data using standard browser from anywhere – over intranet or internet. With g-tekNet™'s host of report generation facility and 21CFR Part 11 compliance, you can be sure of the data security.

Vertical (Strip) Graph:

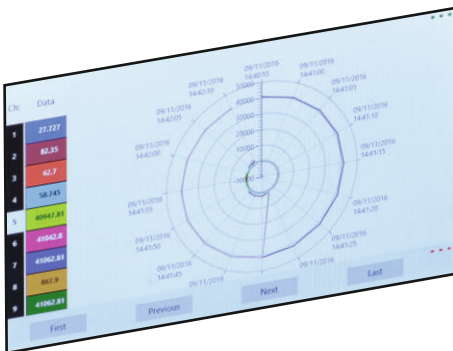
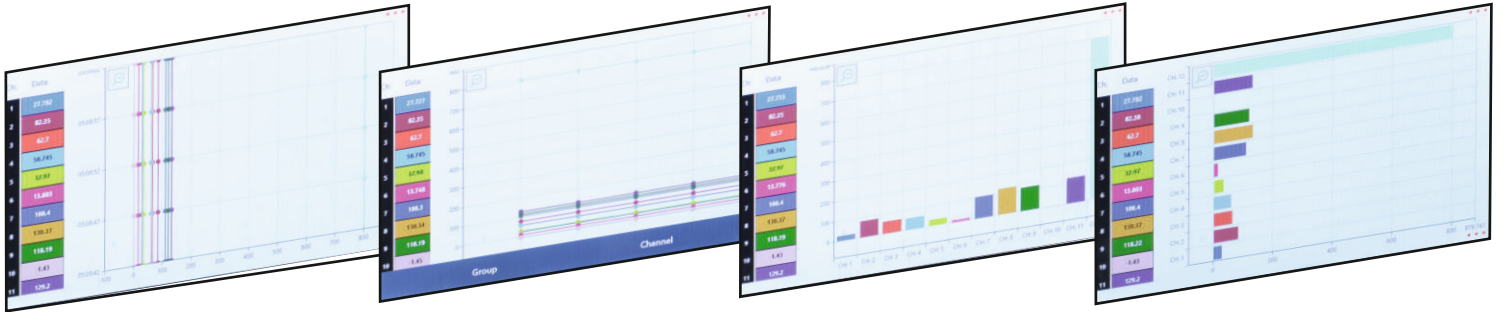
This view displays the channel data in STRIP chart form of the graph. User can select the group for which he wants to see the strip chart. Instantaneous data of each displayed channel is indicated on the side panel. User can remove the channel from the view.

Horizontal Graph:

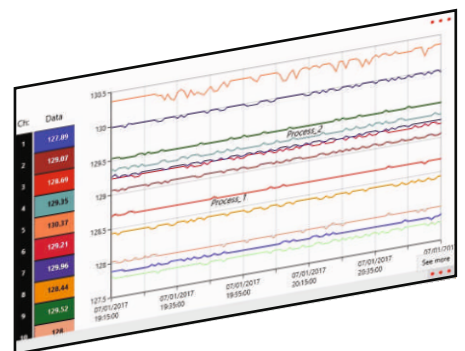
This view is similar to strip chart with a difference that now time axis is horizontal instead of vertical. Here also user can do all the manipulation as in strip graph.

Bar Chart :

This view displays the instantaneous data in a standard bar form. They are easy to understand the process changes. There are two forms of Bar Charts, Horizontal and vertical. Here also using the GROUP and CHANNEL tab, user can set the view. The digital value is displayed in the bar for convenience.



| Export | View | Batch Name | Batch Start | Batch Stop |
|--------|------|-----------------------|---------------------|---------------------|
| Export | View | PK_Sens02_09111601... | 09-11-2016 14:38:25 | 09-11-2016 14:53:16 |
| Export | View | PK_Sens02_09111601... | 09-11-2016 13:58:03 | 09-11-2016 14:05:00 |
| Export | View | PK_Sens02_09111601... | 09-11-2016 10:48:23 | 09-11-2016 10:59:52 |
| Export | View | PK_Sens02_09111601... | 09-11-2016 10:40:21 | 09-11-2016 10:55:50 |
| Export | View | PK_Sens02_09111601... | 09-11-2016 14:27:31 | 09-11-2016 14:39:14 |
| Export | View | PK_Sens02_09111601... | 09-11-2016 14:07:58 | 09-11-2016 14:19:42 |
| Export | View | PK_Sens02_09111601... | 09-11-2016 12:38:05 | 09-11-2016 12:52:03 |
| Export | View | PK_Sens02_09111601... | 09-11-2016 12:11:39 | 09-11-2016 12:23:03 |
| Export | View | PK_Sens02_09111601... | 09-11-2016 11:52:53 | 09-11-2016 11:48:24 |



Circular Chart:

Most user friendly, preferred for better readability, user can see all the channels data at a glance.

Historical Data View :

SmartScreen series of recorders allow the user to view the previously recorded batches while the current batch is running. User can export the data to Pen Drive in csv format for easy analysis using any of the spreadsheet software. User can zoom in and out the graph. The left panel displays the digital data pointed by the marker on graph. As you move the marker, data will also follow. User can see this data in either strip form or in horizontal graph form.

Adding notes for future reference :

While reviewing historical data, user can add notes also. Just go to the data point, and add a note for easy future reference. Notes can be easily retrieved at later date.

• Your Ordering Code : mail to quote@gtek-india.com

Select your ORDER Code:

| | | | | | | | |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|

Example ORDER Code:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 6 | 2 | 2 | 1 | 0 | 0 | 3 | - | 1 |
|---|---|---|---|---|---|---|---|---|

Code : Display Size
6 : TFT LCD 7"

Code : Analog Input Type
2 : ch - GND Isolated (Non Isolated)

Code : No of Analog Input Card
1 : 1 AI Card
2 : 2 AI Card
3 : 3 AI Card
4 : 4 AI Card
5 : 5 AI Card

Code :
1 : 85-264 V AC; 47-63Hz
2 : 5 V DC; 7Amp
3 : 85-264 V AC; 47-63Hz + 1 TP
4 : 85-264 V AC; 47-63Hz + 2 TP
TP: Power Supply for Transmitter (24V DC 30 mA Max)

Code : Relay
0 : None
1 : 1 Relay Card
2 : 2 Relay Card

Code : Analog O/P
0 : None

Code : Communication
3 : 1 TCP/IP

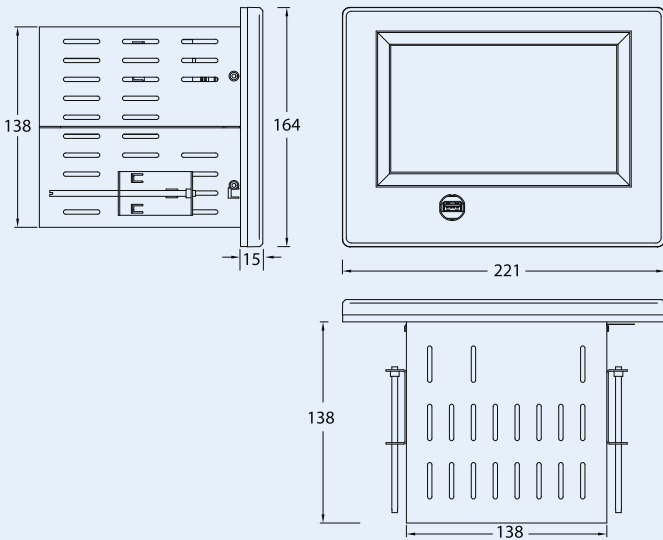
Code: Security
0 : None
1 : 21CFR Part 11 Compliant

Relay Output Board

| | |
|----------------------------------|--|
| No of Inputs per Board : | 4 |
| No of Slots Consumed per Board : | 2 |
| Relay Output Type : | High / Low |
| Output Type : | 1 Form C (C-NC-NO) |
| Life Expectancy : | Mechanical: 10 ⁷ operations |
| Relay Contact Ratings : | Electrical: 10 ⁵ operations |
| Relay Contact Ratings : | 1A; 230V AC Resistive |
| Relay Refresh Rate : | 500mSec |
| Isolation Relay - Relay : | 2.5KVrms 1minute (IEC 61010-1) |
| Isolation Relay – Earth : | 1.5KVrms 1minute (IEC 61010-1) |

Transmitter Output Power

| | |
|----------------------------|--------------------------------|
| Maximum no of output : | 2 |
| Output Voltage : | 24V DC |
| Max Current : | 30mA |
| Short Circuit : | Protected |
| Isolation Output – Earth : | 1.5KVrms 1minute (IEC 61010-1) |



Overall Dimension:

| | |
|-----------------------------|-----------------|
| Dimension H x W x D (mm) : | 164 x 221 x 138 |
| Panel Cutout (mm) (H x W) : | 138 x 138 |
| Bezel (mm) : | 221 x 164 |
| Weight : | 1.5 Kg |

Dealer / Representative

The specifications given above are an overview, and may be or may not be available in all product variants, or at an additional cost. The company reserves the right to change the specifications without prior notice, as the company follows a continual improvement philosophy for its products.



- Manufacturers of :
- Circular Chart Recorders
 - Inkless Recorders
 - Paperless Recorders
 - Scanners & Data Loggers
 - Networked Data Loggers
 - Application Software
 - Web based DAQ
 - Vaccine Series Data Loggers

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