Smart Data Controller

G-TECH Series
NB-IoT | LoRa | DI/DO | AI | RS485
RS232 | M-Bus | Wireless M-Bus | Pulse Input | Relay Output
**Smart Data Controller**

**G-TECH Series**

G-TECH is a modular smart data controller series used for recording and controlling data for any automation process from building to machinery.

The main controller of the G-TECH series, CPU100 is an ARM Cortex A72 processor-based compact product. Besides the main controller, it offers a wide area of use with its more than 10 modules.

While the G-TECH series provides a high level of automation service, it provides an advantage with its long-term operation without maintenance and low failure probability. In addition, if the technical requirements of the system change, it will adapt to the new situation with less or no change thanks to its modular structure.

**Application Areas**

- Energy & Utilities
- Industrial facilities
- Water, wastewater, and water tank monitoring
- Smart cities
- Transportation
- Agriculture and livestock sector
- Hospital

**Functions and Technical Details**

**CPU**

- Operating System : Custom Linux
- Processor   : Quad Core ARM Cortex A72 64-bit 1.5GHz
- RAM       : 1 GB LPDDR4
- Memory    : 16 GB
- Interface : 1 x Gigabit Ethernet, 1 x USB 2.0
- Others    : RTC, micro SD card
- LED Indicators : PWR, RUN

**LoRa Interface**

- Frequency : 433 MHz / 868 MHz
- TX Power  : Up to +14 dBm
- Coverage  : Up to 15 km at suburban area, Up to 5 km at urban area
- Data rate : Up to 300 kbps with FSK modulation, Up to 10.9 kbps with LoRa Technology Modulation
- Connector : SMA-K

**Advantages**

- Modular Structure
- Wireless Communication Solutions
- Wired Communication Solutions
- Digital / Analog Input and Output Modules
- Wide Communication Protocols
- Customizable Software

**Standards**

- IEC 61000-4-2,3,4,5,6,8,11
- IEC 61000-3-2,3
- IEC 55024
- IEC 55032
- IEC 62368-1

**Cellular Interface**

- Bands
- GSM : 850 / 900 / 1800 / 1900 MHz
- Protocols : UDP / TCP / SNTP / PPP / SSL / TLS / MQTT / CoAP / LwM2M / HTTP / HTTPS / FTP / FTPS
- Sim : Micro SIM
- Connector : SMA-K
Analog Inputs
- Channel: 4 channels
- Input Range: 0 – 10 Vdc
- Signal Resolution: 12 bit

MBUS
- Number of Slave: Up to 20 devices
- Baud Rate: 300 – 9600 bps

Digital Inputs
- Channel: 8 ch.
- Isolation: 3750 Vac
- Maximum Voltage: 30 Vdc
- LED Indicators: PWR, RUN, 8 x IN

Digital Outputs
- Channel: 8 channels
- Isolation: 3750 Vac
- Configurable Output: Internal - 24 Vdc
- External - Max. 30 Vdc
- Output Current: 350 mA per channel
- Over Current: 500 mA

Relay Outputs
- Channel: 4 channels
- Contact Form: SPDT (1C)
- Max. Switching Voltage: 250 Vac / 30 Vdc
- Max. Switching Current: 5A (NO) / 3A (NC)
- Durability: 50,000 operations @ 5A
- Terminals: NO, COM, NC

Wireless MBUS
- Protocols: T, S, C modes
- Frequency: 433, 470, 868, 915, 920
- TX Power: Up to +16 dBm

RS485/RS232
- Baud Rate: 300 – 115200 bps
- Data Bit: 7, 8 bits
- Parity: None, Even, Odd
- Stop Bit: 1, 2 bits

Pulse Inputs
- Channel: 4 channels
- Isolation: 3750 Vac
- Contact Type: Dry contact with GND

Environmental Factors
- IP Rating: IP30
- Dimensions: 35.3 x 120.6 x 107.3 (for each module)
- Installations: DIN rail
- Operating Temp.: -10 ... 80 °C
- Storage Temp.: -40 ... 85 °C
- Relative Humidity: 5 ... 90% RHE

Modules
- CPU100: Main Controller
- s1-PWR-1: Power Module
- s1-TRMN-L: Left Side Termination
- s1-TRMN-R: Right Side Termination
- s1-DI8: Digital Input (8 ch.)
- s1-DO8: Digital Output (8 ch.)
- s1-RO4: Relay Output (4 ch.)
- s1-AI4: Analog Input (4 ch.)
- s1-Pi4: Pulse Input (4 ch.)
- s1-RS485: RS485 Com. Module
- s1-RS232: RS232 Com. Module
- s1-MBUS20: MBus Com. Module
- (up to 20 devices)
- s1-WMBUS*: Wireless MBus Com. Module
- s1-NBIOT**: NB-IoT Com. Module
- s1-LORA**: LoRa Com. Module

* Will be ready to sell in the third quarter of 2023
** Will be ready to sell in the fourth quarter of 2023
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