CHESTER INPUT

Product Name:	CHESTER Input
Power Type:	Battery or DC adapter
Manufacturer:	HARDWARIO
Product Type:	IoT Gateway

SERIES OVERVIEW

Launched by HARDWARIO, CHESTER Input configurable NB-IoT/LTE-M/LoRa WAN device, it is used to measure and observe analog and digital inputs. The sampled analog values are aggregated, the aggregate measurements are buffered, and scheduled for later data transfer in the form of buffered data altogether with the timestamp annotations. Also, the changes on digital input can be tracked with the type of change and timestamp.

The buffering strategy allows a higher number of events to be recorded while conserving data bandwidth and power required for data transfer.

CHESTER Input has 3 built-in sensors. Thermometer used to measure internal temperature, Accelerometer to measure device orientation and ADC used to measure battery.

CHESTER Input typical use case:

- Efficiently monitor power generation and implement it into diesel generators to send machine state reports
- As an ideal solution for a precise monitoring of failures and breaches of electric fences
- Weight measurement of bee hives and volume monitoring of grain silos

MAIN COMPONENTS

CHESTER-M-CGLS

- CHESTER mainboard
- Connects sensors, actuators, PLC controllers
- Controls outputs and relays
- Instant messages by NB-IoT/LTE-M or LoRaWAN
- Low-power design
- Open- source Zephyr-based SDK
- Easy setup with HARDWARIO Manager
- Simple integration through HARDWARIO Cloud service

CHESTER-X0B

- Input module (4 channels)

CHESTER-Z

- Extension board with rechargeable Li-Ion battery and AC/DC power supply that can charge the backup battery

KEY FEATURES

Low Power Consumption

CHESTER Input operates on minimal power, extending battery life up to 5 years and reducing operational costs.

CHESTER Input Z is powered from external power supply from 6 to 28 VDC and includes backup Battery Li-ion battery Charger to be used in the case of failure of external power supply.

Wireless Connectivity

The device supports wireless communication using LTE-M / NB-IoT or LoRaWAN connectivity, ensuring reliable data transmission over long distances.

For local setup the CHESTER Platform includes bluetooth communication, where the user can update the firmware and change the parameters like sampling, aggregation, report, backlight button and many others in HARDWARIO Manager.

Easy Integration

CHESTER Input seamlessly integrates with various IoT platforms and data processing systems.

Using HARDWARIO Cloud the user has access to the management of IoT devices and provides access to the transmit device data via REST APIs or Callbacks, also can be used with any Dashboard where the user can see and visualize all the data.

Measurement and Behavior

All sensors are sampled with a configurable period. Samples are then aggregated in the configurable interval.

Minimum, maximum, average, and median are computed from buffered samples for each sensor.
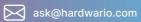
Each aggregated value has its timestamps and are sent in a batch in a report interval period.

Open-source SDK

Ability to create your own applications or update the existing one by your self.

VARIANTS

All variants of CHESTER Input is capable of analog and digital inputs measurement. Also there is option of four different inputs type voltage, current, trigger and counter.

CHESTER Input

The hardware of this application consists of the following ordering codes:

- CHESTER-M-BCGLS - Standard mainboard with C battery holder
- CHESTER-X0B - Input module (4 channels)
- CHESTER-E2-LP - Enclosure with four small glands, SMA antenna pigtail and light pipe
- Battery SAFT LS26500

CHESTER Input Z

CHESTER Input Z is powered from external power supply from 6 to 28 VDC and includes backup Battery Lithium-ion battery Charger to be used in the case of failure of external power supply.

The hardware of this application consists of the following ordering codes:

- CHESTER-M-CGLS - Standard mainboard
- CHESTER-X0B - Input module (4 channels)
- CHESTER-Z - Power source module with backup battery
- CHESTER-E3-LP - Enclosure with four small glands, power supply connector Weipu, SMA antenna pigtail and light pipe
- Power supply 24 V / 0.5 A with Weipu connector

CHESTER Input ZH

CHESTER Input ZH is capable of humidity and temperature measurement.

CHESTER Input ZH is powered from external power supply from 6 to 28 VDC and includes backup Battery Lithium-ion battery Charger to be used in the case of failure of external power supply.

The hardware of this application consists of the following ordering codes:

- CHESTER-M-CGLS - Standard mainboard
- CHESTER-X0B - Input module (4 channels)
- CHESTER-Z - Power source module with backup battery
- CHESTER-S2 - External hygrometer and thermometer
- CHESTER-E10-LP - Enclosure with PG9, four small glands, power supply connector Weipu, SMA antenna pigtail and light pipe
- Power supply 24 V / 0.5 A with Weipu connector

CHESTER Input 8x

The hardware of this application consists of the following ordering codes:

- CHESTER-M-BCGLS - Standard mainboard with C battery holder
- 2x CHESTER-X0B - Input module (4 channels)
- CHESTER-E8-LP - Enclosure with eight small glands, SMA antenna pigtail and light pipe
- Battery SAFT LS26500

CHESTER Input 8x + DC

CHESTER Input Z is powered from external power supply from 6 to 28 VDC and includes backup Battery Lithium-ion battery Charger to be used in the case of failure of external power supply.

The hardware of this application consists of the following ordering codes:

- CHESTER-M-CGLS - Standard mainboard
- 2x CHESTER-X0B - Input module (4 channels)
- CHESTER-Z - Power source module with backup battery
- CHESTER-E8-LP - Enclosure with eight small glands, power supply connector Weipu, SMA antenna pigtail and light pipe
- Power supply 24 V / 0.5 A with Weipu connector

TECHNICAL SPECIFICATION

Structure	
Enclosure material	ASA
Dimension	130×175×45 mm
Inputs	Up to 8 inputs

Power	
Nominal battery voltage	3.6 V
Nominal battery capacity	7700 mAh
Idle power consumption	< 180 µA
Peak power consumption	> 250 mA

Environment	
Operating Temperature	-20 to 60+ °C
Storage Temperature	-20 to 60+ °C
Enclosure Protection	IP 67