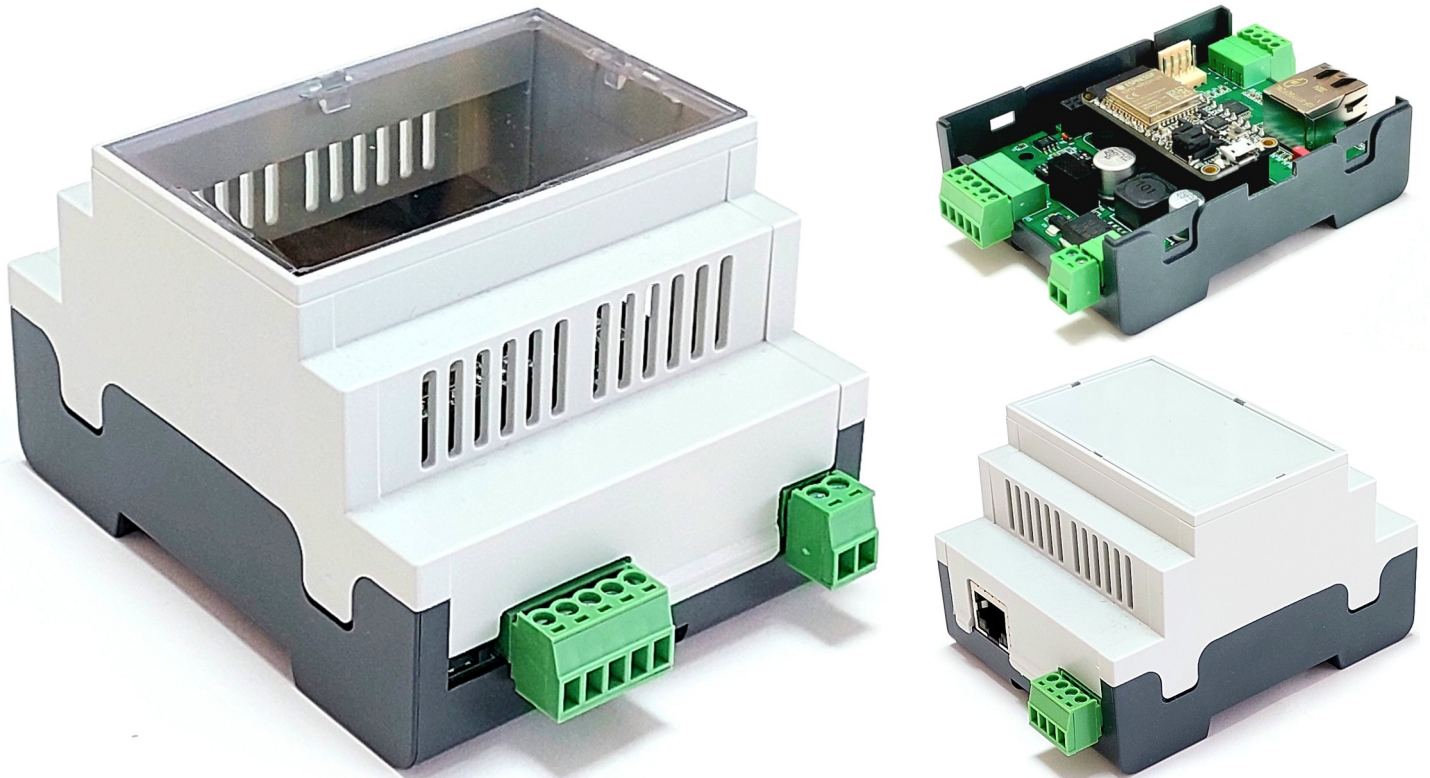


Feather Industrial Controller

Industry 4.0 Controller for Featherboards (1 Extension slot)



Features :

- milled **cab rail enclosure** (4 modules)
for EN50022 DIN rails
- Integrated power supply (Vin 9...35V DC)
- **Isolated RS485** / RS422 interface
- **100Mbit Ethernet** TCP/IP MAC & PHY
- Extension socket with four extra terminals
- Header for OLED Shield connection
- For **Feather style boards** only
- removable terminals
- Opening for USB connector of Feather board on right side
- Available with transparent lid, grey lid or lid for OLED

Feather Industrial Controller

Industry 4.0 Controller for Featherboards (1 Extension slot)

Enclosure:

- Outside dimensions: 72mm x 90mm x 58mm (W x H x L)
- Material: ABS
- Finish top shell: light grey
- Finish bottom shell: dark grey

Features voltage regulator:

- Input voltage: 9 – 35V DC
- Output voltage: 5V / 2.1A DC

Features Ethernet :

- Wiznet W5500 Ethernet controller
- 10/100 Ethernet MAC and PHY
- supports TCP, UDP, IPv4, ICMP, ARP, IGMP ...
- Communication via SPI

Features RS485 :

- RS485 (half duplex) and RS422 (full duplex) mode
- Automatic or software controlled transmitter
- Isolated interface
- Data rate (Max) 0.2 Mbps
- Isolation rating 2500 Vrms
- Surge voltage capability 4000 Vpk
- Terminating resistor, pull-up and pull-down resistors on board

Feather Industrial Controller

Industry 4.0 Controller for Featherboards (1 Extension slot)

Compatibility:

The industrial controller is compatible with the Feather standard from Adafruit. In addition to Adafruit, there are also numerous other manufacturers of microcontroller boards that use this standard.

Feather compatible microcontroller boards are available for a wide variety of platforms, for example:

- RP2040
- ESP32
- ESP8266
- Cortex M0
- Cortex M4
- nRF52832
- ATMEGA328
- STM32
- SAMD51

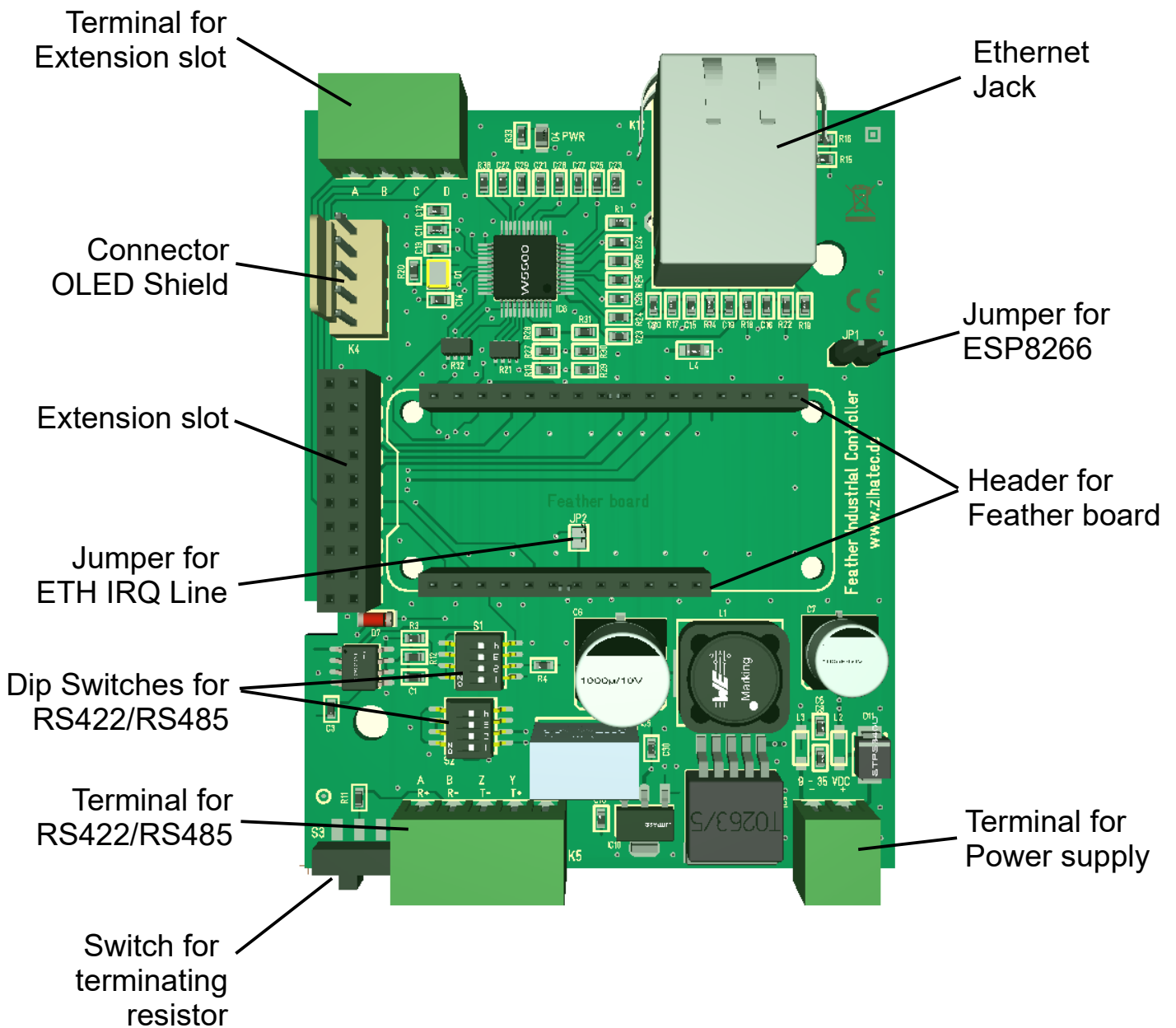
Applications :

- Home automation
- Industrial control
- Door access and door control
- Temperature controls
- Education
- Internet of Things (IoT)
- Industry 4.0
- Data acquisition
- Gateways

Feather Industrial Controller

Industry 4.0 Controller for Featherboards (1 Extension slot)

Features main board:



Feather Industrial Controller

Industry 4.0 Controller for Featherboards (1 Extension slot)

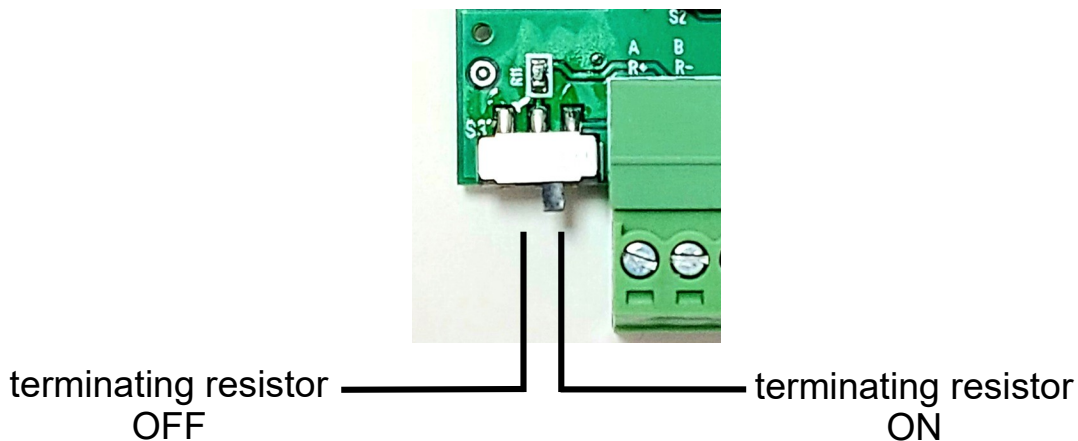
S1 - DIP Switch RS485 Configuration – send/receive control:

Channel	Description
1	Receiver always on
2	Transmitter connected to Receiver
3	Automatic DE/RE control
4	DE/RE control via GPIO18

S2 - DIP Switch RS485 Configuration – RS422/485 mode:

Channel	Description
1	Connect Y to terminal K2
2	Connect Z to terminal K2
3	Connect internally Y to A
4	Connect internally Z to B

S3 - Slide Switch RS485 Terminating Resistor:



Feather Industrial Controller

Industry 4.0 Controller for Featherboards (1 Extension slot)

Examples RS485 mode:

automatic send/receive control

SW1	
1	OFF
2	ON
3	ON
4	OFF

SW2	
1	OFF
2	OFF
3	ON
4	ON

Send/receive control via D5

SW1	
1	OFF
2	ON
3	OFF
4	ON

SW2	
1	OFF
2	OFF
3	ON
4	ON

Example RS422 mode:

SW1	
1	ON
2	OFF
3	ON
4	OFF

SW2	
1	ON
2	ON
3	OFF
4	OFF

Feather Industrial Controller

Industry 4.0 Controller for Featherboards (1 Extension slot)

Jumper JP1:

This Jumper enables the programming of Huzzah8266 Feather (ESP8266).

For all other boards this jumper is always closed!

For Huzzah8266 the Jumper JP1 must be opened during programm upload and closed during runtime.

Solder Jumper JP2:

This Jumper JP2 is open on delivery.

When the jumper is closed with solder, a connection between the reset input of the Ethernet controller and D11 is established.

Attention:

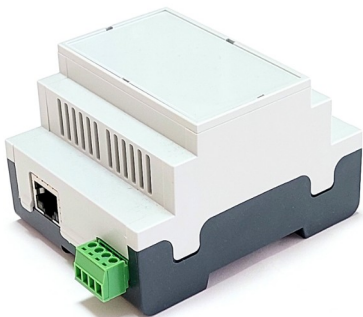
With some boards e.g. : Huzzah8266, D11 is not an independent IO port!

Feather Industrial Controller

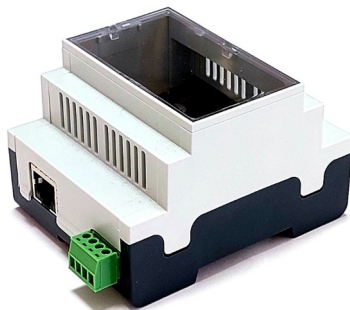
Industry 4.0 Controller for Featherboards (1 Extension slot)

Part number table:

Part-No.	Version	Features
INCNTRFG	Feather	- grey lid
INCNTRFT	Feather	- transparent lid
INCNTRFO	Feather	- lid for OLED



grey lid



transparent lid