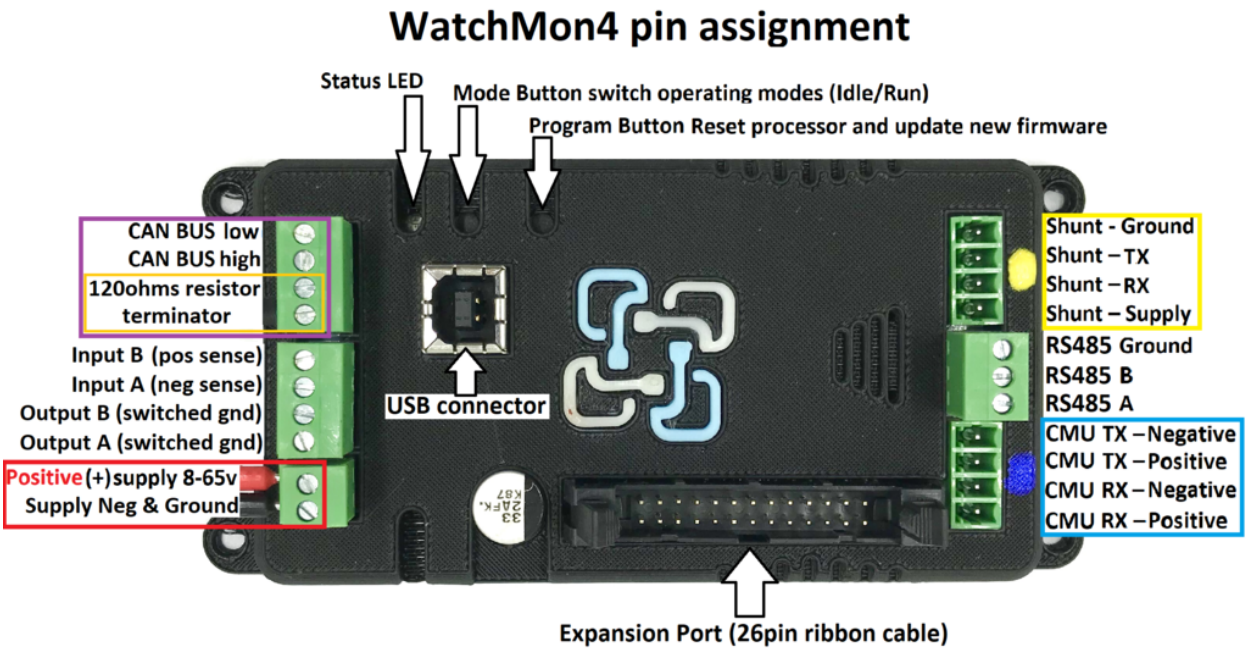
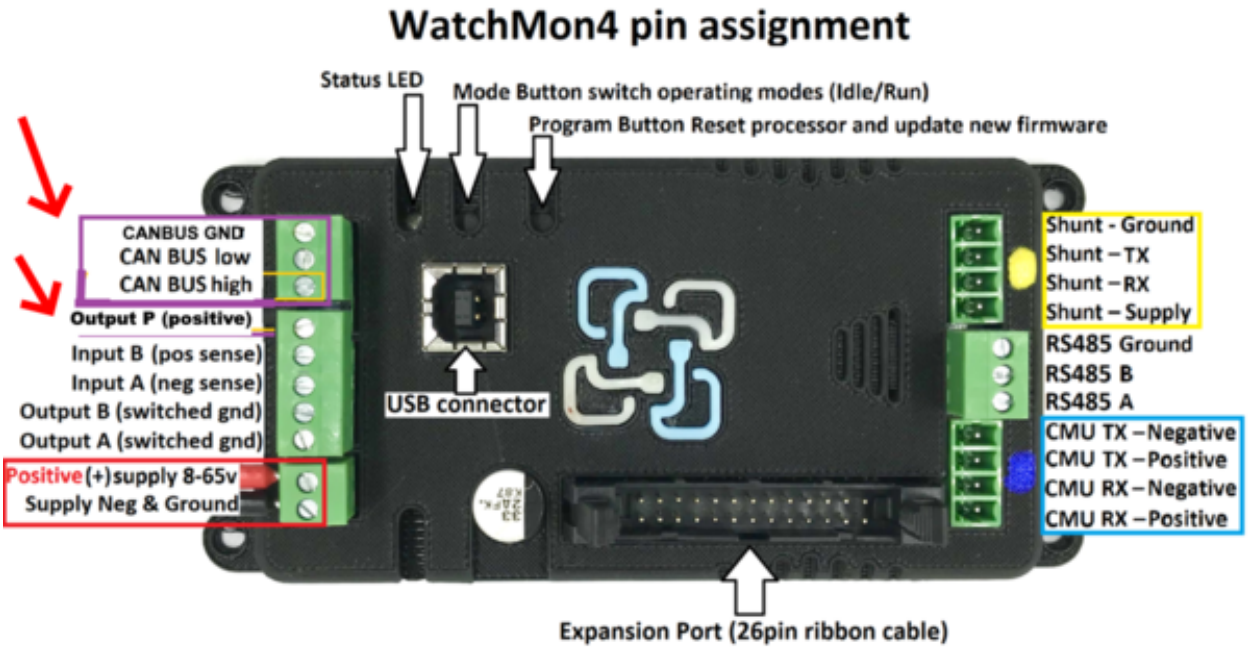
Watchmon4 Hardware Guide And Pin Assignment

BMS central processor for watching cell monitoring units and provides supervision functions. The WatchMon4 supervisor is able to notify remote systems (inverter/charger) of the battery state and when required, trigger evasive action to prevent damage to battery pack.

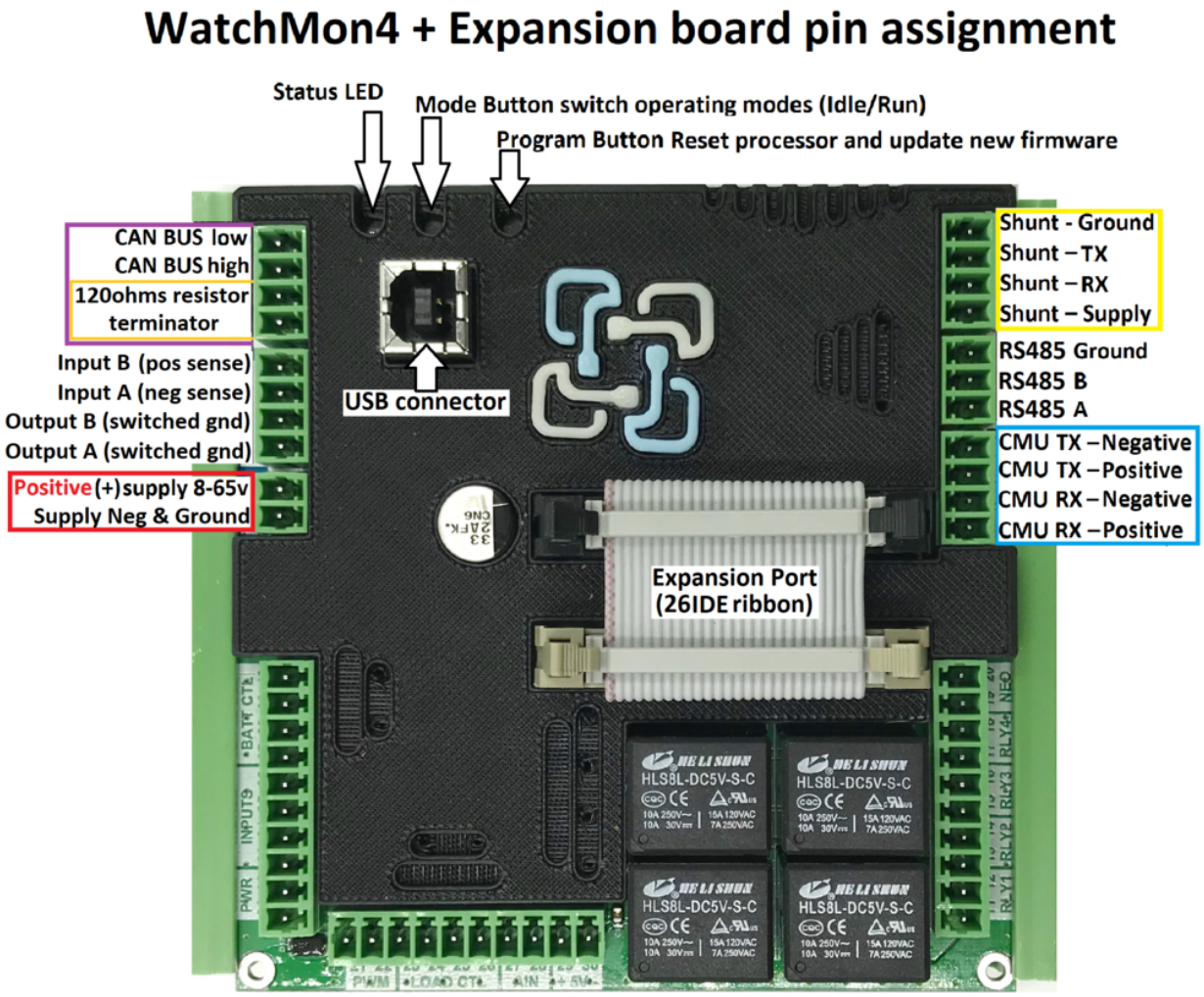
4.0 - 4.2 Pin Assignment



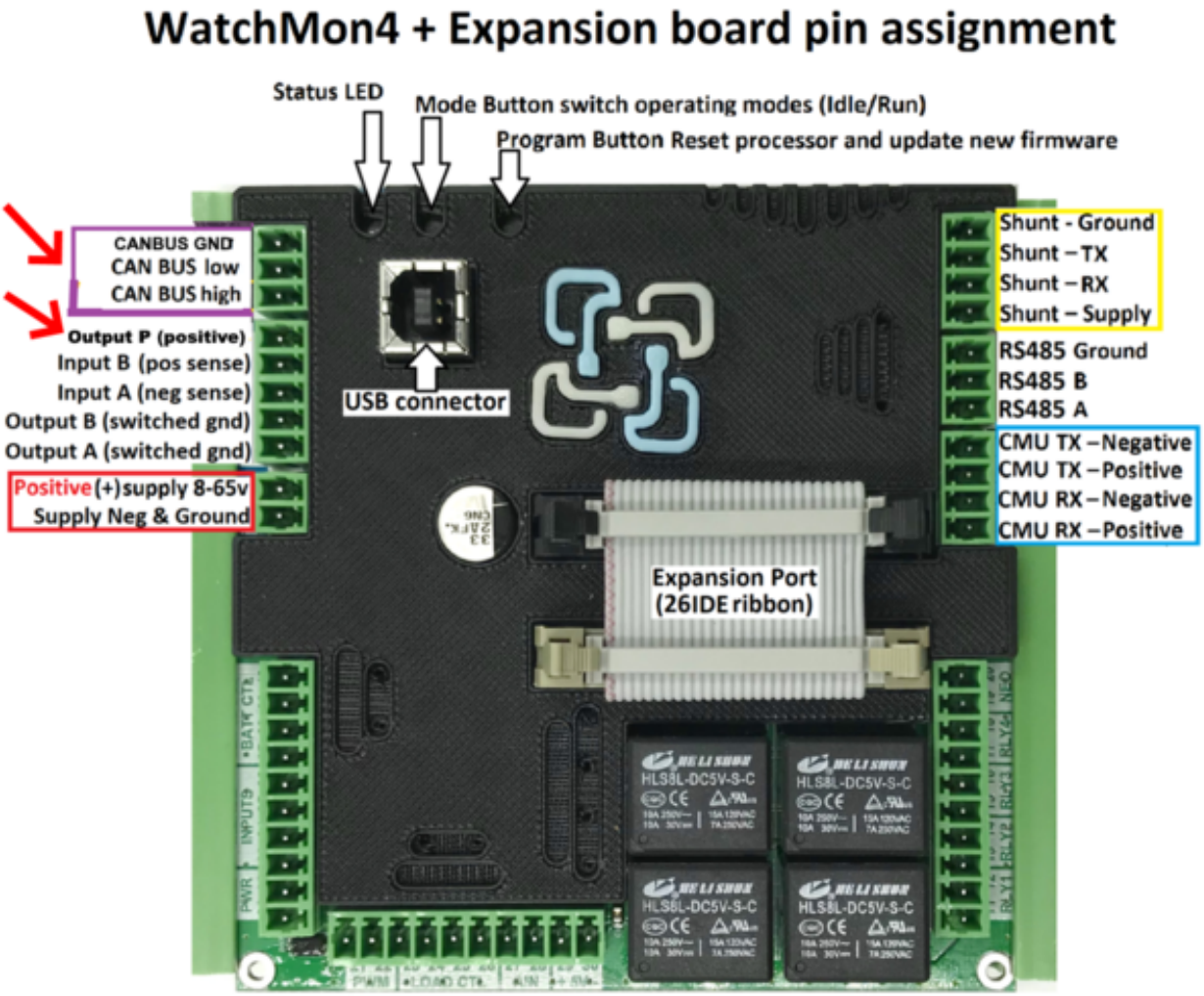
New 4.3 - 4.4 Pin Assignment



4.0 - 4.2 Pin Assignment



New 4.3 - 4.4 Pin Assignment



Remote Communication

- WiFi connectivity (normal, disabled, or read only)
- Can-Bus communication port to remote systems
- Modbus RS485 link allowing connectivity to inverters without canbus
- Optional blue-tooth connectivity (future enhancement)

Built-In Input And Output Control

- Two (2) onboard FET outputs 4A with 8A inrush
    - e.g. remote circuit breaker trip + fan
- Two (2) onboard input
    - e.g. circuit breaker trip sensor

Pin outputs – Top terminals

Pin	Name	Details	Default
01	Supply Neg	Supply (8..65v)	
02	Supply Pos	Supply (8..65v)	
03	Input 1	Input Digital 1 (positive sense)	Run / Idle
04	Input 2	Input Digital 2 (positive sense)	Charge Normal / Recovery
05	Input 3	Input Digital 3 (ground sense)	System mode button
06	Input 4	Input Digital 4 (pulse counter)	SiCan/SiMon – Signal-In
07	Output 7	Output mosfet 3A (switched +ve 48v)	Batt – ON latched relay
08	Output GND	Ground for Pin 7..9	Batt - common latched relay
09	Output 8	Output mosfet 3A (switched +ve 48v)	Batt – OFF latched relay
10	Input 7	Input Digital 7 (ground sense) relay state	Batt - Latched relay sensor

Pin outputs – Bottom terminals

Pin	Name	Details	Default
11	Output 1 – NO	Relay 1 control 30Vdc 5A cont (10A peak)	
12	Output 1 – C		
13	Output 2 – NO	Relay 2 control 30Vdc 5A cont (10A peak)	
14	Output 2 – C		
15	Output 3 – NO	Solid State Relay 3 control 60Vdc 2A cont (4A peak)	
16	Output 3 – C		
17	Output 4 – NO	Solid State Relay 4 control 60Vdc 2A cont (4A peak)	
18	Output 4 – C		

Pin outputs – Side left terminals

Pin	Name	Details	Default
23	Output 9	Output mosfet 3A (switched +ve 48v)	Load – ON latched relay
24	Output GND	Ground for Pin 9..10	Load - common latched relay
25	Output 10	Output mosfet 3A (switched +ve 48v)	Load – OFF latched relay
26	Input 8	Input Digital 8 (ground sense) relay state	Load - Latched relay sensor
27	Input 5	Input analogue 5 (0..5v)	Charging Rate % threshold
28	Input 6	Input analogue 6 (0..5v)	Reserved
29	Reg 5v Pos	Regulated 5v Pos	DC-DC non-isolated 1W supply
30	Reg 5v Neg	Regulated 5v	DC-DC non-isolated 1W supply

Pin outputs – Side right terminals

Pin	Name	Details	Default
31	Expansion Port	26pin Expansion Port	

Callout references

ref	Name	Details	Default
41	Indicator Out-7	Output active (Red led)	Batt – ON latched relay
42	Indicator Out-8	Output active (Red led)	Batt – OFF latched relay
43	Indicator Out-9	Output active (Red led)	Load – ON latched relay
44	Indicator Out-10	Output active (Red led)	Load – OFF latched relay
45	Indicator Out-1	Relay Output 1	OkNotCritical
46	Indicator Out-2	Relay Output 2	Warning InBypass
47	Indicator Out-3	Relay Output 3	Cooling Enabled
48	Indicator Out-4	Relay Output 4	Heating Enabled
49	Alert Speaker		Huston we have a problem

Added Features And I/O With Expansion Board

Provide inputs and outputs terminals to an extend range of features from a WatchMon. Not for individual sale, sold only as part of a kit.

Key Features

- 2 relay outputs 5A/30VDC
- 2 Solid State relay outputs 2A/60VDC
- 6 digital switched mosfet outputs 48V (3A continuous 6A peak)
- 2 analogue 5v inputs
- 2 digital inputs (positive sense)
- 2 digital inputs (negative sense)