WebBrick® WB10B60

A general purpose, web-enabled, configurable, monitoring & control unit for building automation applications

General Description

The WB10B60 is the first of a new generation of WebBrick™ products to meet the needs of building automation markets including smart homes and IT-based industrial automation. Including a web server and a flexible process control engine, the WebBrick WB10B60 is a stand-alone, configurable and flexible monitoring and control unit capable of managing a range of equipment and systems over the internet or through local devices like switches and sensors. The WebBrick is configured through its own web page or via web services.

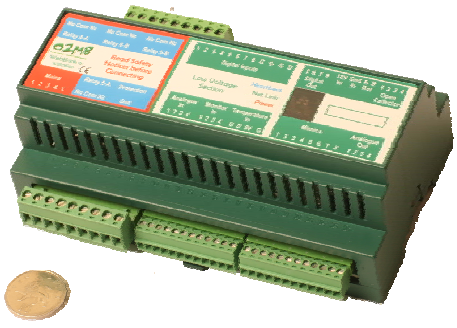
WebBricks are industry proven being deployed in a range of industrial, commercial and domestic applications. If the data network connection fails the WebBrick continues doing the job it was originally configured to do providing local control and monitoring. WebBricks also recover from power failures without the need for reconfiguration. These features allow for more flexible and robust building automation architectures to be deployed accommodating either distributed or centralized control systems. The WB10B60 is packaged in a DIN-rail mountable enclosure with 66 rising clamp screw down connections

Functionality & I/O Resources

The WebBrick WB10B60 includes –

- 4 analogue inputs, 0–5 volts with high & low threshold actions
- 4 analogue outputs, 0-10 volts
- 8 digital trigger inputs
- 4 digital inputs for monitoring
- 4 switch-able mains outputs, TRIAC driven, 240V, 2 amp loads
- 2 double-pole, volt-free, change-over relays
- 8 digital mimic outputs
- 4 open collector outputs mimicking TRIAC-driven mains outputs
- 2 digital outputs mimicking relay outputs
- 2 further digital TTL outputs
- 1-Wire™ bus, up to 5 DS18B20 temperature sensors, 0.1 DegC resolution, +/-0.5 DegC accuracy, high & low threshold actions
- RJ45 connector for Ethernet data network,
- Fully-featured Web Server supporting TCP/IP, UDP, HTTP and DHCP protocols
- 16 configurable, weekly schedules
- 8 configurable, multi-output scenes

Figure 1: WebBrick WB10B60



 Rev 1.1 20/12/05

Figure 2: WebBrick™ WB10B60 top view

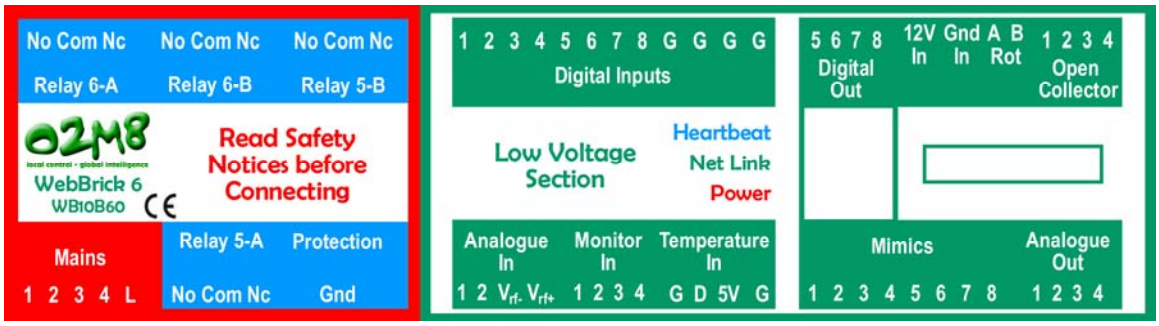


Table 1: WB10B001 Connection Names and Description

Name of Connection	Description & Details
Mains – L	Mains voltage (240V) feed to four switchable mains outputs
Mains - 1, 2, 3, 4	4 switchable mains outputs from internal TRIACs, driven from state machines 1, 2, 3, 4
Relay 5-A - No, Com, Nc	Relay 5-A – NO (Normally Open), Com (Common), NC (Normally Closed), driven from state machine 5
Protection – GND	Mains ground signal
Relay 5-B, Nc, Com, No	Relay 5-B – NC (Normally Closed), Com (Common), NO (Normally Open), driven from state machine 5
Relay 6-B - Nc, Com, No	Relay 6-B – NC (Normally Closed), Com (Common), NO (Normally Open), driven from state machine 6
Relay 6-A - Nc, Com, No	Relay 6-A – NC (Normally Closed), Com (Common), NO (Normally Open), driven from state machine 6
Analogue In - 1, 2, Vrf-, Vrf+	2 analogue signal inputs, voltage reference for analogue inputs, 0 - 5 volts. Do not connect voltages higher than 5V across Vrf- & Vrf+ otherwise damage to the device is likely
Monitor In - 1, 2, 3, 4	4 digital input signals, 0 – 5V, TTL levels
Temperature In - G, D, 5V, G	G = ground terminal connections. D = connect up to five temperature sensors to this 1-Wire bus, 5V = 5 volt DC supply for 1-Wire peripherals
Mimics - 1, 2, 3, 4, 5, 6, 7, 8	TTL digital outputs mimicking the outputs of state machines 1, 2, 3, 4, 5, 6, 7, 8. These are very useful for switches that have 'switch confirmation LEDs' built in
Analogue Out – 1, 2, 3, 4	4 analogue output signals, 0 – 10 volts
Open Collector – 1, 2, 3, 4	4 open collector outputs connected to the 12V supply, driven from the outputs of state machines 1, 2, 3, 4
Rot - A, B	Rotary encoder inputs for lighting applications. Rotary encoders can be connected in parallel for multiple switches
In - GND, 12V	Power supply for WebBrick, 12 volts DC and 0 volts
Digital Out - 5, 6, 7, 8	TTL digital outputs driven from state machine outputs 5, 6, 7, 8
Digital Inputs - G, G, G, G	Four GND connections for trigger inputs & general needs
Digital Inputs - 1, 2, 3, 4, 5, 6, 7, 8	Digital trigger inputs for state machines 1, 2, 3, 4, 5, 6, 7, 8. Connecting these inputs to GND/0V will trigger the state machines to perform their configured action

Figure 3: WebBrick enclosure and packaging description

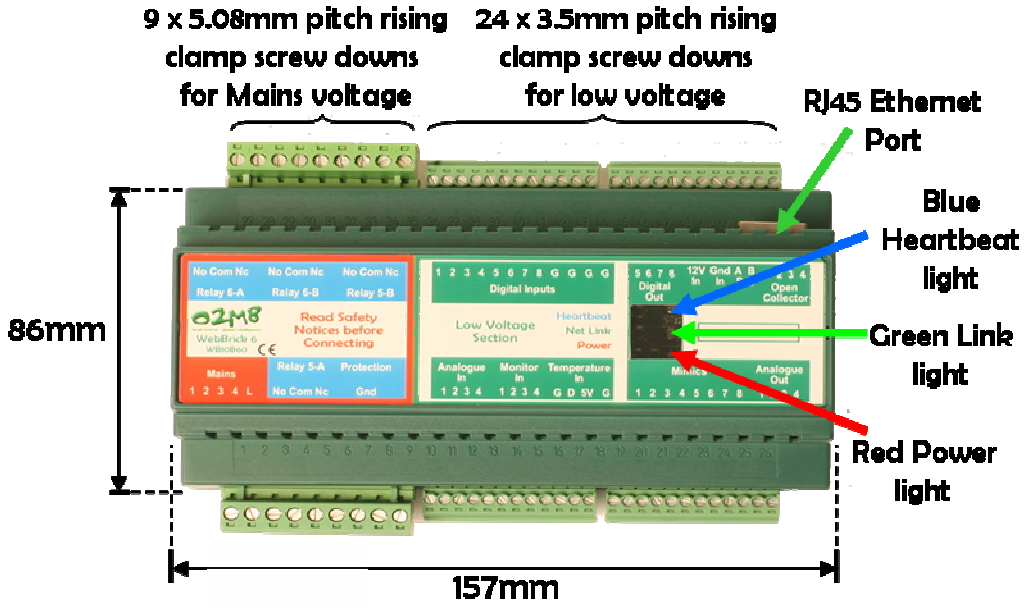


Table 4: Ordering Information

Part Order Number		
WB10B60		General purpose WebBrick 6 product

Datasheet Revision History

	Date	Comments
0.1	25/11/2005	First version of a preliminary datasheet
1.0	08/12/2005	First public release of WebBrick WB10B60 datasheet
1.1	20/12/2005	Removed two analogue inputs and replaced with Vref- & Vref+. This allows flexibility in defining the analogue input voltage dynamic range.