PRODUCT DATA SHEET

Flexy

MODULAR INDUSTRIAL IOT ROUTER AND DATA GATEWAY

Highlights

- Flexible WAN interface: LAN, 4G, WiFi, PSTN,...
- Flexible Field interface supporting numerous PLC protocols
- Easy to setup and use through embedded web pages
- Easy deployment using file transfer or SD card
- High performance for data processing
- OPCUA and Modbus server
- Alarm management with notification (SMS, e-mail, FTP put or SNMP trap)
- Datalogging up to 1,000,000 timestamps
- Robust industrial design (24 VDC, DIN Rail mounting)
- Temperature range: -25°C +70°C (in Ordinary Location)
- C1D2 available for use in hazardous locations

Typical Applications

- Remote access
- Remote metering & monitoring
- Remote Networks


Flexy 201


Flexy 202


Flexy 203 ((MPI - Profibus)

eWON Flexy is a modular Industrial M2M Router designed to satisfy the following key requirements:

- Flexible WAN, allowing a single product to address different Internet connectivity needs (Ethernet, WiFi, 3G, LTE,...) and securing the investment in case of technology shift (e.g. the move from 3G to 4G)
- Flexible Field, providing easy connection to a wide range of external devices, even to USB enabled devices, including various field protocols
- Flexible Apps, embedding alarms, datalogging, remote access, routing and web HMI applications with easy web-based configuration and programming tools for customization
- Flexible Price, from a low-end M2M gateway to address very simple facilities/sites, to a high-end industrial router for remote access to complex machines.
- Use in hazardous locations (C1D2 version)

eWON Flexy is fully compliant with Talk2M, the first industrial cloud connectivity service deployed on multiple servers worldwide, and with eFive, a VPN server appliance, for real-time control applications.

GENERAL FEATURES	
Flexy Serie100/200	Flexy are available in two series. The Serie 100 has been designed for simple and cost effective Remote Data Collection application and doesn't provide routing capability between LAN and WAN Ethernet interface and Ethernet to serial gateway. The Serie 200 provides full features.
Ethernet to Serial Gateways	MODBUS TCP to MODBUS RTU; XIP to UNITELWAY; EtherNet/IP™ to DF1; FINS TCP to FINS Hostlink; ISO TCP to PPI, MPI (S7) or PROFIBUS (S7); VCOM to ASCII. (Applicable to the serie 200)
Data Acquisition Protocols	MODBUS/RTU, MODBUS/TCP, Unitelway, DF1, PPI, MPI (S7), PROFIBUS (S7), FINS Hostlink, FINS TCP, EtherNet/IP™, ISO TCP, Mitsubishi FX, Hitachi EH, ASCII, BACnet/IP. Stored in 2500 internal tags
Data Publishing Protocols	OPC UA, Modbus, SNMP.
Alarms	Alarms notification by email, SMS, FTP put and/or SNMP traps. 4 Thresholds : low, lowlow, high, highhigh + deadband and activation delay. Alarm logs in http and via FTP, Alarm cycle: ALM, RTN, ACK and END
Datalogging	Internal data base for data logging (real-time logging and historical logging up to 1,000,000 timestamps). Retrieval of the database with files transferred by FTP or email
SD card reader	YES, for easy commissioning (firmware upgrade, backup, Talk2M registration). Not applicable for Hazardous locations.
Router	IP filtering, IP forwarding, NAT, Port forwarding, Proxy, Routing table, DHCP client/server. (Applicable only to the serie 200)
VPN Tunnelling	Open VPN either in SSL UDP or HTTPS
VPN Security	VPN sessions are end-to-end encrypted using SSL/TLS protocol. Communications between the remote user and the eWON are fully encrypted using the SSL/TLS protocol, thereby ensuring data authenticity, integrity & confidentiality. Indeed, all users and eWON units are authenticated using x509 SSL certificates and end-to-end traffic is encrypted using strong symmetric & asymmetric algorithms that are part of the SSL/TLS protocol cipher suite.
Programmable	Script interpreter for Basic language, embedded Java 2 Micro Edition environment
Synchronization	Embedded real-time clock, manual setup via http or automatic via NTP
File Management	FTP client and server for configuration, firmware update and data transfer
Website	Embedded web interface with setup wizards for configuration and maintenance (no extra software needed). Authentication with login/password and session control for security. Possibility of uploading custom web GUI. Compatible with viewON web HMI.
User Flash Disk	up to 30MB available for user application
Maintenance	SNMP and or via FTP files

FLEXY BASE MODULE	
Mechanicals	Din Rail Mounting Dimensions: 80 x 89 x 134 mm (H x D x W); Weight: < 500 g
Power supply	12 - 24VDC +/-20%, LPS Consumption: depending on the extension card installed (see Installation guide on our website)
Input/output	2x digital input: 0 to 12/24VDC; 1.5kV isolation 1x digital output: open drain (MOSFET) 200mA; 1.5 kV isolation

Flexy base module interface	**Flexyn01***: 4 x RJ45 Ethernet 10/100Mb switch, 1,5kV isolation **Flexyn02*:** 1x RJ45 Ethernet 10/100Mb, 1 x male SUBD9 serial port configurable by software in RS232/485/422, 1.5kV functional isolation from power supply **Flexy n03***: 1x RJ45 Ethernet 10/100Mb, 1 x female SUBD9 MPI port, 1.5kV functional isolation from power supply

*Note: n=1 for the Flexy Serie 100, n=2 for Flexy Serie 200

FLEXY EXTENSION CARDS

Dual serial ports (FLA3301 and FLA3301H)

Number of ports	1x male SUBD9 serial port RS232/422/485 configurable by dipswitch and 1x male SUBD9 RS232 serial port with RTS, CTS signals

Cellular 3G+ (FLB3202 and FLB3202H)

Frequencies	Pentaband UMTS/HSPA+ modem (800/850, 900, AWS1700, 1900, 2100 MHz) Quad band GPRS/EDGE (850, 900, 1800, 1900 MHz)
Antenna Connector	Type SMA - Female
Antenna	Not included in the delivery

EU 4G LTE (FLB3204)

Frequencies	4G: B7(2600), B1(2100), B3(1800), B8(900), B20 (800)MHz 3G: B1 (2100), B8 (900) MHz 2G: B3 (1800) , B8(900) MHz
Antenna Connector	Type SMA - Female
Antenna	Not included in the delivery

WIFI (FLB3271 and FLB3271H)

Wan connectivity	WiFi: 802.11 b/g/n WiFi/WLAN client for remote connection
Frequencies	Channels: 1 to 11 (inclusive)
Security	WPA2, WPA and WEP
Antenna Connector	Reverse SMA male connector
Antenna	included in the delivery; frequency: 2.4 GHz; impedance: 50 Ohms, gain:2.0 dB

I/O card (FLX3402 and FLX3402H)

Number of inputs/output	I/O card with 8x DI, 2x DO, 4x AI (0-10V, 4-20mA)
Range	AI : voltage mode 0-10V - 16 bit resolution or current mode 4-20mA, user selectable with Dip Switch configuration. DI : 0 to 12/24 VDC,DO: 2A/30V VAC/VDC For 3402H, DO: 24VDC @ 250mA max See control drawing EHW-0070-011-CD for detailled information
Isolation	AI: 1.5kV from power supply, DI: 1.5 kV from electronic AND power supply, DO: 1.5kV from electronic AND 1.5kV from power supply

3 USB Ports Card (FLB3601)

Leds	4 leds : 1 global status, 1 for each port status
Connector	Type A female
Current limit	Each port has its own 500mA current limit. Global current limit on the board is 500mA
Port activation	All ports will be enabled/disabled together
Isolation	Earth GND isolation is limited to 500V due to USB connector design

Ethernet WAN (FLX3101 and FLX3101H)

Ethernet port	1x RJ45 Ethernet 10/100 base Tx; 1.5kV isolation

PSTN (FLA3501 and FLA3501H)

Modem standards	V.92/56K, V.34/33.6K, V.32bis/14.4K and V.22bis/2400 bps
Data compression	V.44 and V.42bis, MNP 5
Modem	Telecom approved in more than 50 countries including United States, Europe, Japan, China, etc
Connector	RJ11; 2 lines (tip, ring)
Indicator	Front plate LED: Status, Activity

GENERAL CHARACTERISTICS, STANDARDS & DIRECTIVES

Temperature Range

* base modules and extension cards for Ordinary Location	Operating: -25°C to +70°C, 10 to 95% relative humidity (non-condensing) Storage: -40°C to +70°C, 10 to 95% relative humidity (non-condensing)
* base module and extension cards for Hazardous Location (C1D2)	Maximum surrouding temperature: 60°C Class I, Division 2, Groups A, B, C, D: T4A, -25°C <= Ta <= +60°C T6, -25°C <= Ta <= +40°C Class I, Zone 2, IIC: T4, -25°C <= Ta <= 60°C T6, -25°C <= Ta <= 40°C
Marking	CE 0682 FCC c UL us
Warranty	24 months
Type tests	Temperature - Operating & Storage tested according to: IEC 60068-2-1 Cold test IEC 60068-2-2 Dry heat test IEC 60068-2-14 Change of temperature IEC 60068-2-30 Cyclic damp heat test Vibration & shocks tested according to: IEC 60068-2-27 Bumps IEC 60068-2-64 Vibration (broad-band random) IEC 60068-2-6 Vibration (sinusoidal)
CE	Compliant with: EMC directive 2014/30/EU RE directive 2014/53/EU* LV directive 2014/35/EU* RoHS directive 2011/65/EU REACH regulation 1907/2006 According to standards: EMC: ITE emission Class A and Immunity EN55032; EN55024 EN301489-1*; EN301489-17*; EN301489-52* Spectrum*: EN301511; EN301908-1; -2 & 13 EN300328 Health: EN62311 Safety: EN60950
FCC	Compliant with: CFR 47, part 15B class A; 15C*; 22H*; 24E*; 27*; 68*
IC	Compliant with IC (Industry Canada) RSS-130 -132; RSS-133; RSS-139; RSS-210
Japan	This equipment has the Type Approval Certification based on the Radio Law

Safety	Conform to: EN60950-1; UL60950-1; CSA-C22.2 n° 60950-1-07 UL recognized: file number E350576
Hazardous Location	Compliant with (hazardous location part numbers only): Standard for Nonincendive Electrical Equipment for Use in Class I, Division 2 or Class I, Zone 2 for Hazardous (Classified) Locations Class I Division 2, Groups A, B, C, D Class I, Zone 2, IIC UL Recognized: file number E465346

* when applicable depending on the plugged EXT cards

PART NUMBER

Base Module Part Number	Ordinary Location	Hazardous Location C1D2
4xEthernet switch	Flexyn01*	Flexy201H
1xEthernet + 1 serial Port	Flexyn02*	—
1xEthernet + 1 MPI port	Flexyn03*	—

*Note: n=1 for the Flexy Serie 100, n=2 for Flexy Serie 200

Extension Cards	Ordinary Location	Hazardous Location C1D2
Dual serial ports	FLA3301	FLA3301H
Cellular 3G+	FLB3202	FLB3202H
EU 4G LTE	FLB3204	—
WIFI	FLB3271	FLB3271H
3 USB Ports Cards	FLB3601	—
Ethernet WAN	FLX3101	FLX3101H
PSTN	FLA3501	FLA3501H
Extension I/O card	FLX3402	FLX3402H

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