4M family

Description

The 4M-BOX family products are panels developed for electrical measurement and energy monitoring in three-phase and single-phase low-voltage applications. The UWP 3.0 gateway is equipped with the SH2DSP24 accessory module that provides a way to connect to Internet by using mobile networks via dongle modem.
The acquired data can be managed remotely in a secure way, through a web server with an intuitive and custom user interface.

Benefits

- **All-in-one solution**: The 4M-BOX family products include into a unique solution all the components for the configuration and installation of a measuring and monitoring energy system. You are not required to purchase or install any additional components.
- **Quick installation**: the panels are preassembled and ready for the installation. You just have to connect them to the supply mains and to install the current transformers according to the desired measure.
- **Easy configuration**: the devices can be easily configured through a unique free software.
- **Possibility of visualization** thanks to the energy analysers display and joystick.
- **High stockage capacity**: 4GB internal memory (embedded into UWP 3.0)
- **Powered by MAIA Cloud**: secure and reliable system for remotely managing, setting and operating UWP 3.0 units worldwide.
- **IoT system**: the UWP 3.0 gateway is Microsoft Azure Certified for IoT and compatible with Amazon AWS IoT.

Applications

These panels are suitable for single/three-phase low-voltage applications, where it is needed to monitor and measure the electric consumptions. Typical applications can be the monitoring of energy consumptions in industrial plants, commercial or public buildings, electric vehicle charging stations.

Order Code

4M-BOX - ▢ - ▢ - ▢

Enter the code, replacing the symbol ▢ with the available option (e.g.: 4M-BOX-MC-MV5-XX)

Code	Option	Description	Notes
4M-BOX	**-**	4 metering BOX	Model
▢	**-**	4 energy meters	Energy analyzer typology and quantity
	MC	2 multi channels energy meters	
▢	**MV5**	230 V L-N, 400 V L-L ac	Range code
	MV6	120 V L-N, 230 V L-L ac	
▢	**XX**	Standard	Box series
	CTRL	Control	
	MC	Pulses	

Models

BOX SERIES	BOX part number	BOM component p/n	Quantity
4M BOX STANDARD	4M-BOX-MV5-XX	EM21072DMV53XOSX	4
		UWP30RSEXXX	1
		SH2DSP24	1
		SPMA24301	1
		RMIA4524VDC	1
	4M-BOX-MV6-XX	EM21072DMV63XOSX	4
		UWP30RSEXXX	1
		SH2DSP24	1
		SPMA24301	1
		RMIA4524VDC	1
	4M-BOX-MC-MV5-XX	EM27172DMV53X2SX	2
		UWP30RSEXXX	1
		TCDMMXXX80CMX	4
		SH2DSP24	1
		SPMA24301	1
		RMIA4524VDC	1
	4M-BOX-MC-MV6-XX	EM27172DMV63X2SX	2
		TCDMMXXX80CMX	4
		UWP30RSEXXX	1
		SH2DSP24	1
		SPMA24301	1
		RMIA4524VDC	1

BOX SERIES	BOX part number	BOM component p/n	Quantity
4M BOX CONTROL **Box unit with Smart-Dupline generator**	4M-BOX-MV5-CTRL	EM21072DMV53XOSX	4
		UWP30RSEXXX	1
		SH2MCG24	1
		SH2DSP24	1
		SPMA24301	1
		RMIA4524VDC	1
	4M-BOX-MV6-CTRL	EM21072DMV63XOSX	4
		UWP30RSEXXX	1
		SH2MCG24	1
		SH2DSP24	1
		SPMA24301	1
		RMIA4524VDC	1
	4M-BOX-MC-MV5-CTRL	EM27172DMV53X2SX	2
		TCDMMXXX80CMX	4
		UWP30RSEXXX	1
		SH2DSP24	1
		SH2MCG24	1
		SPMA24301	1
		RMIA4524VDC	1
	4M-BOX-MC-MV6-CTRL	EM27172DMV63X2SX	2
		TCDMMXXX80CMX	4
		UWP30RSEXXX	1
		SH2DSP24	1
		SH2MCG24	1
		SPMA24301	1
		RMIA4524VDC	1

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BOX SERIES	BOX part number	BOM component p/n	Quantity
4M BOX PULSES **Box units with pulse con-centrator**	4M-BOX-MC-MV5-MC	EM27172DMV53X2SX	2
		TCDMMXXX80CMX	4
		UWP30RSEXXX	1
		VMUMCAS1I2EM	1
		SH2DSP24	1
		SPMA24301	1
		RMIA4524VDC	1
	4M-BOX-MC-MV6-MC	EM27172DMV63X2SX	2
		TCDMMXXX80CMX	4
		UWP30RSEXXX	1
		VMUMCAS1I2EM	1
		SH2DSP24	1
		SPMA24301	1
		RMIA4524VDC	1

Components

▶ Energy analyzer

Component p/n	Description	Notes	Reference data sheet
EM21072DMV53XOSX	Compact energy analyzer for three- phase systems	230/400VLL AC, 0.333V (current sensor CTV series or ROG4K connection)	https://gavazziautomation.com/images/PIM/DATA-SHEET/ENG/EM210_DS_ENG.pdf
EM21072DMV63XOSX		120/230VLL AC, 0.333V (VT/PT and current sensor CTV series or ROG4K connection)	
EM27172DMV53X2SX	Multi-channel energy analyzer for single or three-phase systems	230 V L-N, 400 V L-L ac, connection via TCD_M or TCDMM	https://gavazziautomation.com/images/PIM/DATA-SHEET/ENG/EM271_DS_ENG.pdf
EM27172DMV63X2SX		120 V L-N, 230 V L-L ac, connection via TCD_M or TCDMM	

▶ Gateway

Component p/n	Description	Reference data sheet
UWP30RSEXXX	Universal web platform: UWP 3.0 is a monitoring gateway and controller that allows the monitoring and controlling of installations where Energy Efficiency Management, Building Automation and Car Park Guidance functions are needed.	https://gavazziautomation.com/images/PIM/DATASHEET/ENG/UWP_3.0_DS_ENG.pdf

▶ Accessory modules

4M-BOX series	Component p/n	Description	Reference data sheet
ALL	SH2DSP24	The UWP 3.0 accessory module, that provides compatible Carlo Gavazzi devices with a reliable and cost-effective way to connect to Internet by using mobile networks via dongle modem.	https://gavazziautomation.com/images/PIM/DATASHEET/ENG/SH2DSP24_ENG.pdf
CONTROL	SH2MCG24	A master channel generator that provides the channel generator output drive for one Smart Dupline ® network.	https://gavazziautomation.com/images/PIM/DATASHEET/ENG/SH2MCG24_EN.pdf

4M-BOX series	Component p/n	Description	Reference data sheet
PULSE	VMUMCAS1I2EM	A pulse concentrator that makes totalizers available to master systems via Modbus RTU protocol. It controls up to three VMU-OC modules to integrate from 2 to a maximum of 11 digital inputs.	https://gavazziautomation.com/images/PIM/DATASHEET/ENG/VMU-MC_VMU-OC_DS_ENG.pdf

Power supply

Component p/n	Description	Reference data sheet
SPMA24301	Single-phase power supply	https://gavazziautomation.com/images/PIM/DATASHEET/ENG/SPMA_DS_ENG.pdf

Relay

Component p/n	Description	Reference data sheet
RMIA4524VDC	RMI: relay mini-industrial.	https://www.gavazzionline.com/pdf/rmi4n.pdf

Compatible accessory kit

▶ **3-phase split-core sensor current sensor kit**

KIT p/n	Description	Components' p/n	Reference data sheet
4M-KIT-CTV1X60	3-phase split-core current sensor kit-60A	3 x CTV1X60A333MV	
4M-KIT-CTV2X100	3-phase split-core current sensor kit-100A	3 x CTV2X100A333MV	
4M-KIT-CTV3X200	3-phase split-core current sensor kit-200A	3 x CTV3X200A333MV	
4M-KIT-CTV4X200	3-phase split-core current sensor kit-200A	3 x CTV4X200A333MV	https://gavazziautomation.com/images/PIM/DATASHEET/ENG/CTV_DS_ENG.pdf
4M-KIT-CTV4X400	3-phase split-core current sensor kit-400A	3 x CTV4X400A333MV	
4M-KIT-CTV6X400	3-phase split-core current sensor kit-400A	3 x CTV6X400A333MV	
4M-KIT-CTV8X800	3-phase split-core current sensor kit-800A	3 x CTV8X800A333MV	

▶ **Rogowsy current sensor kit**

KIT p/n	Description	Components' p/n	Reference data sheet
4M-KIT-ROG2X	Rogowsky current sensor kit – 250 mm	1 x ROG4X1002M2503X	
4M-KIT-ROG2X	Rogowsky current sensor kit – 350 mm	1 x ROG4X1002M3503X	https://gavazziautomation.com/images/PIM/DATASHEET/ENG/ROG4X_DS_ENG.pdf
4M-KIT-ROG6X	Rogowsky current sensor kit – 600 mm	1x ROG4X1002M6003X	
4M-KIT-ROG9X	Rogowsky current sensor kit – 900 mm	1 x ROG4X1002M9003X	

▶ **Compatibility and conformity**

4M-BOX	Directives	2015/30/EU (LVD) 2014/30/EU (EMC) 2011/65/EU + 2015/863/EU (RoHS)
	Standards	EN61010-1: 2010 (LVD) EN 61326-1: 2013 (EMC) EN50581: 2012 (RoHS)