

VMx5 VM link installer

Installer manual VMx5 – VM link installer

> 9UMENX523-1200 Release: 210503



VMx5 – VM link installer

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1. VMx5 VM link

1.1. Introduction

The VMx5 VM link is the device which allows TCP/IP connection between VM25 (or VM15) control unit and Machine PCU where VM25 HMI (or VM15 HMI) and VMx5 service are installed.

VM25 VM link performs:

- TCP/IP connection between VM25 control unit and Machine PCU
- VMx5 systems firmware upgrade, backup and restore by VMx5 service
- Local firmware upgrade by USB port
- Service operation by secondary Ethernet port

This documentation concerns the installation and use of the VMx5 VM link starting with version 12.0.





1.2. Layout, labels and technical data





Front label	Side label
	Construction Construction </th

Side label includes:

- Electrical technical data •
- Default IP addresses (A3 and A4 RJ45 ports) •
- •
- Protection grade Part number and serial number •

PRODUCT DESCRIPTION		NOTES
Function	Gateway TCP/IP-BS Link used to connect the host (i.e. Siemens PCU50) to the VMx5 control unit.	
ENVIRONMENTAL		
Temperature Range	0 - 50 °C	
ELECTRICAL		
Input voltage	24 Vdc	
Max power	5 W	
Type of connection	Terminal block connections	
MECHANICAL		
Size (length x width x height)	45,2 x 118 x 99 mm	
Weight	160g	
Mounting specifications	Standard TS35 vertical DIN rail	
Case Material	Polyamide	
Protection grade	IP20	
Mechanical reference drawing	9AD485ETH0XX00	
INTERFACES		
BS Link Bus on RS485	1 (A1 connector) - to VM25 control unit	
USB 2.0 port	1 (A2 connector) - Local firmware upgrade	
Ethernet TCP/IP port (RJ45)	1 (A3 connector) - to Machine PCU	
Ethernet TCP/IP port (RJ45)	1 (A4 connector) - service operations	
SOFTWARE		
Version	12.x	
Remote connection for service	Yes, through TCP/IP (A4 connector)	
System software update	Yes, through TCP/IP or USB (A3 or A2 connectors)	
OTHER SUPPLIED ITEMS		
VMx5 control unit - Gateway VM Link connection cable	0,5 m	9WM000-5000000



1.3. Interfaces and LED signalling

VM link			
Туре	ID	Name	Description
D-Sub 9 pole female	A1	BS Link	SERIAL BS Link INTERFACE 1. Data (-) 4. GND 5. +24V 6. Data (+) NOTE: Pins not listed are isolated
Phoenix 4 pin	A5	Power supply	1. +24Vdc 2. PE 3. PE 4. GND
RJ45 female	A3	LAN 1	Ethernet port No.1
RJ45 female	A4	LAN 2	Ethernet port No.2 (service)
USB type A female	A2	USB	USB 2.0 host port
	R		Reset button
			<pre>TX: data transmission (green blinking) RX: data receiving (yellow blinking) RUN: see the table below (green blinking) ON: Power (green fixed)</pre>

Run LED description			
Туре	Phase	Description	
	Working normally	LED blink 3 times	
	Service mode	LED blink 4 times	
RUN	Ethernet default configuration	LED blink 2 times	
	Identification	LED blink 5 times	
	Upgrade error	Fast LED blinking	
	Boot and FW upgrade	Slow LED blinking	



1.4. Installation

VM Link is available with p/n:

9AD485ETH01200 – VMx5 VM link, v12

Controlu unit – VM link connection cable is included in the supply (0,5 m)

1.4.1. Mechanical installation

VM Link can be installed inside the cabinet on standard TS35 DIN rail.

1.4.2. Hardware connections using VMx5 HMI

To startup the VM link it is necessary to connect to the control unit of the VMx5 system through a P1 connector (see figure), following this sequence:

- Connect supplied cable on the VMx5 control unit side (P1 connector)
- Connect the other side of the cable to the VM link (A1 connector)
- Connect Ethernet cable on the VM link side (A3 connector)
- Connect the other side of the Ethernet cable to the CN
- Turn on the VMx5 control unit

• In case of service operations performed by specialized personnel (not directly by VMx5 service installed on CN), it is possible to use the secondary Ethernet port (A4 connector)

<u>Note</u>: Since VM link is directly connected to the control unit, 24Vdc power supply (to connector A5) is unnecessary.





1.4.3. Hardware connections using VMx5 Panel

To startup the VM link it is necessary to connect to the control unit of the VMx5 system through a P1 connector (see figure), following this sequence:

- Connect supplied cable on the VMx5 control unit side (P1 connector)
- Connect the other side of the cable to the VM link (A1 connector)
- Connect Ethernet cable on the VM link side (A3 connector)
- Connect the other side of the Ethernet cable to the VM x5 panel H4 connector
- Turn on the VMx5 control unit

• In case of service operations performed by specialized personnel, it is possible to use the secondary Ethernet port (A4 connector)

<u>Note</u>: Since VM link is directly connected to the control unit, 24Vdc power supply (to connector A5) is unnecessary.

In this configuration, VMx5 panel needs to be independently supplied by external 24Vdc source.







2. Connections and configuration

2.1. VM25 System architecture





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2.2. VM Link configuration by VMx5 Service

Once system connected as described in section 1.4.2 or 1.4.3, switch on the system, login as installer level (to access as installer level, please see the procedure described in 9UMENX519-1200 yymmdd VMx5 HMI Installer or 9UMENx515-1200 Panel installer yymmdd) and follow steps described below:

Open VMx5 Service and press on setup button
 (F8) then press button
 (F3).

F8

According with available network cards IP addresses, select the network on which VM Link is





All recognized devices will be displayed on the screen.

VM Service - Ver. 12.0.191025						
Available net	Available network devices: 10.002 10.168.1.15					
Device Name	HW type	Primary Eth	Eth1: MAC Address	Eth1: IP Address	Eth1: Netmask	Eth1: Gateway
VM Link	VM Link	A3 - Eth1	F8:DC:7A:23:7:8D	192.168.0.1	255.255.255.0	0.0.0.0
•	I	11				۴.
F1	F2	F3	F4	F5 F6	F7	F8
€.		;;;		UT.		

For Each recognized device, is displayed:

- "Device Name" (configurable)
- HW type = type of Balance Systems device
- Primary Eth = primary Ethernet ID (configurable)
- [A3] Eth#1 / [A4] Eth#2 network card MAC address
- [A3] Eth#1 / [A4] Eth#2 network card IP address (configurable)
- [A3] Eth#1 / [A4] Eth#2 network card subnet mask (configurable)
- [A3] Eth#1 / [A4] Eth#2 network card default gateway (configurable)
- [A3] Eth#1 / [A4] Eth#2 network card IP mode = IP address assignment mode (Static or DHCP) (configurable)
- Bridged
- CPort
- Baud rate

Commands				
lcon	Command name	Button	Description	
•	Search devices	F1	Search VM Link devices on selected network	
	Stop search devices	F2	Stop searching VM Link devices on selected network	
۲	Config. Device	F3	Access to VM Link configuration page	
	Signal ON	F4	Identification ON: Run LED blink 5 times in order to report to the user the connected device	
U	Signal OFF	F5	Identificatin OFF	



 In order to access to configuration page, click on select "Config".



(F2) or right click on VM Link row e

Available net	twork devic	ces: 10.0	0.0.2 168.1.15			
Device Name VM Link	HW type	Primary Eth A3 - Eth1	Eth1: MAC Address F8:DC:7A:23:7:8D	Eth1: IP Address	Eth1: Netmask	Eth1: Gateway
						Config
e [50					50
F1	F2	F3		F5 F6	F7	F8

Command	Description
Signal ON	Identification ON: Run LED blink 5 times in order to report to the user the connected device
Signal OFF	Identificatin OFF
Config	Access to TCP/IP configurations



Updater					×
		Config \	/M Link		
Device Name:	VM Link		Hardware type:	VM Link	
Bridg:	OFF 🔹		Cport:	4000	
Primary Eth:	A3 - Eth 1 👻		Baud rate:	115200 🗸	
A3 -	Eth 1		A4 -	Eth 2	
IP mode:	Static 🔹		IP mode:	Static -	
IP:	192.168.0.1		IP:	10.0.0.1	
Netmask:	255.255.255.0		Netmask:	255.0.0.0	
Gateway:	0.0.0.0		Gateway:	0.0.0.0	
Mac Address	F8:DC:7A:23:7:8D		Mac Address	0:80:F:11:70:0	
F1 F2	2 F3	F4	F5	F6 F7	F8
	٩				

Parameter	Description
Device Name	It is possible to set the device name. Default value is VMLink
Bridged	Bridge activation between network cards associated to A4 and A3 connectors:
[OFF]	OFF: Bridge disabled ON: Bridge enabled
	It defines which network card is used for PCU connection:
Primary Eth [A3 – Eth 1]	A3 – Eth 1 : A3 is normally used for connection to PCU A4 – Eth 2 : A4 is normally used for connection to VMx5 service
Hardware type	Read only
Cport [4000]	TCP – IP Port used for devices communication. Example: 4000
Baud rate [bps]	Com port baud rate [bps]
[115200]	9600, 19200, 38400, 57600, 115200
	IP address assignment mode associated to A3 – Eth 1 connector:
	OFF: network card not enabled
A3 – Eth 1 – Ip mode	Static: VM Link IP address is manually assigned by the
Totatio	DHCP : VM Link IP address is automatically assigned by
	DHCP server DHCP Server: VM Link assigns IP addresses to other hosts



Parameter	Description
A3 – Eth 1 – Ip [192.168.0.1]	IP address associated to A3 – Eth 1 network card It allows to set IP address to connect VMx5 HMI
A3 – Eth 1 – Netmask [0.0.0.0]	IP Subnet mask associated to A3 – Eth 1 network card
A3 – Eth 1 – Gateway [0.0.0.0]	IP Default gateway associated to A3 – Eth 1 network card
A3 – Eth 1 – Mac address	Read only
A4 – Eth 2 – Ip mode [Static]	IP address assignment mode associated to A4 – Eth 2 connector: OFF: network card not enabled Static: VM Link IP address is manually assigned by the user DHCP: VM Link IP address is automatically assigned by DHCP server DHCP Server: VM Link assigns IP addresses to other hosts
A4 – Eth 2 – Ip [10.0.0.1]	IP address associated to A4 – Eth 2 network card It allows to set IP address to connect VMx5 Service
A4 – Eth 2 – Netmask [0.0.0.0]	Subnet mask associated to A4 – Eth 2 network card
A4 – Eth 2 – Gateway [0.0.0.0]	Default gateway associated to A4 – Eth 2 network card
A4 – Eth 2 – Mac address	Read only

Commands								
lcon	Command name	Button	Description					
	Confirm config.	F1	Confirm and save network configuration					
X	Cancel	F2	Do not confirm network configuration and exit					

Set proper network parameters according with network administrator and press Confirm config.
 button (F1)



to access the setup

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- In order to check the correct communication with VMLink, proceed as follow:
 F8
 - Starting by VMx5 service main page, press setup button menu
 - With F4 and F5 buttons, select the following connection configuration and type the IP

address associated to A4 connector (i.e.: 10.0.0.1) then press F1 button



 Make sure that the PC or PCU network card on which VMx5 service is installed, is in the same subnet of VM Link network card (A4). i.e.: IP address 10.0.0.2.



• Click on F1 connect button

. Available function cards will be displayed as follow.

😸 VM Service - Ver. 12.0.1	91018					
Connection Type: Remo Type: VM25 Connection State: Conne Host Address: 10.0.0	te ected - 50 0.1	Login: User Port: 4000	r)			
Device	ID	Version	EE Statu:	6		
VM Link 1	VL 1	2.0.191008	O-20			
🔲 NGauge 1	NG 1	2.0.190725	A-20			
Touch Detector 1	TD 1	2.0.190315	T-11			
		Эс Зу	S		m	S
F1 F2	F3	F4	F5	F6	F7	F8
						ß

<u>Note</u>: It is possible to temporary set VM Link network card default settings pressing reset button for 5 seconds and waiting until run led starts to blink 2 times.

Default settings will be hold until device is switched ON. Repeat the procedure to change VM Link network card settings.





2.3. VM Link configuration by VMx5 HMI

Once system connected as described in section 1.4.2, switch on the system, login as installer level (to access as installer level, please see the procedure described in 9UMENX519-1200 yymmdd VMx5 HMI Installer) and follow steps described below:

• Open VMx5 HMI and click on **Parameters** configure the device.



[Shift+F7] then select the tab VMLink to

According with available network cards IP addresses, select the network on which VM Link is

 I

connected then press on F1 button

			VH: Syst Lan Hos Port Con	25HMI - Ver. 12.0.1 In level Inst guage Eng t address loca t 400 nection status Dise	91031 31/10/3 aller liish US lihost 0 connected	2019 11:43:11 Device HIII 1 Gauge Gauge Touch	e 1 e 2 Detector 1	Ver. 12.0.191031						
System configur	ration	System conf Language Current se English US	figuration Connection Device titing	s Layout Data n	ecording Data I	ogger Print	VMLink S			- I I	an			
Available nd	etwork device	Primary Ein	Em1: MAC Address	Eth1: IP Address	En 1: Netmask	Eh1: Galeway	Eth1: IP Mode	Eth2: MAC Address	Eth2: IP Addr			•	4	
									,	•				



All recognized devices will be displayed on the screen.

System configura	System configuration											
Language Con	nection De	vices Layout	Data recording D	ata logger Print	VMLink							
Available ne	Available network devices: 10/152/158.0.2											
Device Name	HW type	Primary Eth	Eth1: MAC Address	Eth1: IP Address	Eth1: Netmask	Eth1: Gateway	Eth1: IP Mode	Eth2: MAC Address	Eth2: IP Addr			
VM Link	VM Link	A3 - Eth1	F8:DC:7A:23:7:8D	192.168.0.1	255.255.255.0	0.0.0.0	Static	0:80:F:11:70:0	10.0.0.1			
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For Each recognized device, is displayed:

- "Device Name" (configurable)
- HW type = type of Balance Systems device
- Primary Eth = primary Ethernet ID (configurable)
- [A3] Eth#1 / [A4] Eth#2 network card MAC address
- [A3] Eth#1 / [A4] Eth#2 network card IP address (configurable)
- [A3] Eth#1 / [A4] Eth#2 network card subnet mask (configurable)
- [A3] Eth#1 / [A4] Eth#2 network card default gateway (configurable)
- [A3] Eth#1 / [A4] Eth#2 network card IP mode = IP address assignment mode (Static or DHCP) (configurable)
- Bridged
- CPort
- Baud rate

	Commands									
lcon	Command name	Button	Description							
E.	Search devices	F1	Search VM Link devices on selected network							
	Stop search devices	F2	Stop searching VM Link devices on selected network							
۰. (ک	Config. Device	F3	Access to VM Link configuration page							
	Signal ON	F4	Identification ON: Run LED blink 5 times in order to report to the user the connected device							
U	Signal OFF	F5	Identificatin OFF							



(F2) or right click on VM Link row e

 In order to access to configuration page, click on select "Config".

System configura	ation									
Language Con	nection Dev	ices Layout	Data recording D	ata logger Print	VMLink					
Available ne	twork device	s: 192.16 10.168	8.0.2 .1.15							
Device Name	HW type	Primary Eth	Eth1: MAC Address	Eth1: IP Address	Eth1: Netmask	Eth1: Gateway	Eth1: IP Mode	Eth2: MAC Address	Eth2: IP Addr	
	VM Link	A3 - Eth1	F8DC7A:23780	192.168.0.1	255 255 255 0	0.0.0	Static	0.80 F:11.70.0	1000 C S	gnal ON gnal OFF onfig
) (>>	(»[)(()						Þ	•□

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Command	Description
Signal ON	Identification ON: Run LED blink 5 times in order to report to the user the connected device
Signal OFF	Identificatin OFF
Config	Access to TCP/IP configurations



Config VM Link			
Device name:	VM Link	Hardware type: VM Link	
Bridged:	OFF -	Control port: 4000	
Primary Eth:	A3 - Eth 1 🔹	Baud rate: 115200 -	
A	3 - Eth1	A4 - Eth2	
lp mode:	Static •	lp mode: Static -	
lp address:	192.168.0.1	lp address: 10 . 0 . 1	
Netmask:	255.255.255.0	Netmask: 255 . 0 . 0 . 0	
Gateway:	0.0.0.0	Gateway: 0 . 0 . 0 . 0	
Mac address:	F8:DC:7A:23:7:8D	Mac address: 0:80:F:11:70:0	
			•0
			J

Parameter	Description
Device Name	It is possible to set the device name. Default value is VMLink
Bridged [OFF]	Bridge activation between network cards associated to A4 and A3 connectors:
	ON: Bridge enabled
	It defines which network card is used for PCU connection:
Primary Eth [A3 – Eth 1]	A3 – Eth 1: A3 is normally used for connection to PCU A4 – Eth 2: A4 is normally used for connection to VMx5 service
Hardware type	Read only
Cport [4000]	TCP – IP Port used for devices communication. Example: 4000
Baud rate [bps]	Com port baud rate [bps]
[115200]	9600, 19200, 38400, 57600, 115200
	IP address assignment mode associated to A3 – Eth 1 connector:
	OFF: network card not enabled
A3 – Eth 1 – Ip mode [Static]	Static: VM Link IP address is manually assigned by the user
	DHCP: VM Link IP address is automatically assigned by
	DHCP Server: VM Link assigns IP addresses to other hosts



Parameter	Description
A3 – Eth 1 – Ip [192.168.0.1]	IP address associated to A3 – Eth 1 network card It allows to set IP address to connect VMx5 HMI
A3 – Eth 1 – Netmask [0.0.0.0]	IP Subnet mask associated to A3 – Eth 1 network card
A3 – Eth 1 – Gateway [0.0.0.0]	IP Default gateway associated to A3 – Eth 1 network card
A3 – Eth 1 – Mac address	Read only
A4 – Eth 2 – Ip mode [Static]	IP address assignment mode associated to A4 – Eth 2 connector: OFF: network card not enabled Static: VM Link IP address is manually assigned by the user DHCP: VM Link IP address is automatically assigned by DHCP server DHCP Server: VM Link assigns IP addresses to other hosts
A4 – Eth 2 – Ip [10.0.0.1]	IP address associated to A4 – Eth 2 network card It allows to set IP address to connect VMx5 Service
A4 – Eth 2 – Netmask [0.0.0.0]	IP Subnet mask associated to A4 – Eth 2 network card
A4 – Eth 2 – Gateway [0.0.0.0]	IP Default gateway associated to A4 – Eth 2 network card
A4 – Eth 2 – Mac address	Read only

	Commands								
lcon	Command name	Button	Description						
	Confirm config.	F1	Confirm and save network configuration						
\bigotimes	Cancel	F2	Do not confirm network configuration and exit						

- Set proper network parameters according with network administrator and press Confirm config.
 button (F1)
- Press exit button

F



- In order to check the correct communication with VMLink, proceed as follow:
 - Go back to system page and click again on **Parameters** tab Connection to configure the connection to VM Link.

[Shift+F7] then, select the

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	VM25HMI - Ver.	12.0.191031	31/10/2019 11:43	11						
	System info	Installer	De	vice MI 1	Ver.	91031				
	Language	English US	•	auge 1	12.0.1	31031				
	Host address		• (auge 2						
	Port		•1	ouch Detector	1					
	Connection statu	8 Disconnected								
System confirmation										
Language Connection	Devices Layout	Data recording	Data logger Pri	t VMLink						
-Current Setting										
Lingilish ob										
Italian Engli	sh UK English U	S German	Erench	Spanish	Chinese T	Russian	Dutch	Romanian		
Landin Lingin	chighter chighter o	0 00000	11011011	opanion	01111000 1	(doolan	Daton			
Czech Slo	wak Polish								(A)	
									• 	

- type the IP address associated to A3 connector (i.e.: 192.168.0.1)
- Make sure that typed IP address on this parameter is the same as IP address associated to A3 port in VM Link configuration. Example: 192.168.0.1

Language Connection	Devices Layout Data recording Data logger Print VMLink	
TOD (0) (1)		
- TCP/IP configuration -		
Host address	192.168.0.1	
Host Port	4000	
	Manual management of the communication layer	
HMI ID		
	✓ HMI demo mode	
Serial port configuration	n	E
COM Port	•	
Baud rate (bos)	115200	
Daga rate [opo]		
		•0

• Make sure that the PC or PCU network card on which VMx5 HMI is installed, is in the same subnet of VM Link network card (A3). i.e.: IP address 192.168.0.2.



Parameter	Description
Host address	IP address of the device to which the VMx5 rack is physically connected.
[localhost]	Example: 192.168.0.1
Host port	Number of the Ethernet port.
[4000]	Example: 4000
Manual managing of the communication layer	[check box]. When activated, the communication task with the VMx5 rack is manually managed by the installer. This feature is reserved for special applications guided by Balance Systems
	Address of the actual VMx5 HMI instance in the VMx5 system (values from 1 to 49)
HMI Id [1]	Should be used when more than one VMx5 HMI or VMx5 Control Panel are connected to the same system.
	Setting "0" the address is automatically assigned (values from 50 to 127)

• Press exit button • and click on **Connect** command [F1]. Available function cards will be displayed as follow:

VM25HMI - Ver.	12.0.191031 31/10/2019 1	13:18:56		
System info		Device	Ver.	
Login level	Installer	HMI 1	12.0.191031	
Language	English US	Gauge 2	12.0.190725	
Host address	192.168.0.1	Touch Detector 1	12.0.190315	
Port				66
Connection status	Connected			\square
				¢
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0				
	salance			
	Systems			
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
			60	



<u>Note</u>: It is possible to temporary set VM Link network card default settings pressing reset button for 5 seconds and waiting until run led starts to blink 2 times.

Default settings will be hold until device is switched ON. Repeat the procedure to change VM Link network card settings.





2.4. VM Link configuration by VMx5 Panel

Once system connected as described in section 1.4.3, switch on the system, login as installer level (to access as installer level, please see the procedure described in 9UMEN2515-1200 yymmdd VM25 Panel Installer) and follow steps described below:







Select HMI node = REMOTE and press

VM25 NETV	/ORK				
HMI ID					1
HMI node					Remote
Automatic	; connect	ion delay (-	1=OFF)	S	-1
IP address	S				192.168.0.1
TCP contr	ol port				4000
VM Link C	ONFIGUR	ATION			
Default: Loca	al - Value:	Local Ren	note		
condant. Edde		2000,1001			

Parameter	Description
	Address of the actual VM25 Panel instance in the VM25 system (values from 1 to 49)
HMI ID [1]	Should be used when more than one VM25 HMI or VM25 Control Panel are connected to the same system
	By setting "0" the address is automatically assigned (values from 50 to 127)
HMI Node = REMOTE	Set VMx5 Panel as "Remote" in order to connect to VM Link device
Automatic connection delay (-1=OFF) [s]	It indicates the automatic connection delay to VM Link at start up.
[OFF]	-1: OFF (Manual connection to VM Link)
	ON: delay time evaluated in seconds
IP address [127.0.0.1]	VM Link IP address. Make sure that typed IP address on this parameter is the same as IP address associated to A3 port in VM Link CONFIGURATION folder.
	Example: 192.168.0.1
TCP control port [4000]	VM Link control port



Open VM Link CONFIGURATION folder pressing



VM Link CONFIGURATION				
Bridge	OFF			
Default Gateway	ETH1[A3]			
ETHERNET #1 [A3]				
Configuration	Static			
IP address	192.168.0.1			
Subnet mask	255.255.255.0			
Gateway address	0.0.0.0			
ETHERNÉT #2 [A4]				
Configuration	Static			
IP address	10.0.0.1			
Subnet mask	255.255.255.0			
TCP control port	4000			
Serial port	ttyAM2			
Baudrate	115200			
Default: OFF - Value: OFF, ON				
▶ 🕑 🖤 🜠 🚺	→ 🚺			

Parameter	Description
Bridge	Bridge activation between network cards associated to A4 and A3 connectors:
[False]	OFF: Bridge disabled ON: Bridge enabled
	It defines for which network card, default gateway is associated:
Default Gateway [ETH0[A3]]	ETH1[A3]: default gateway is associated to network card associated to A3 connector ETH2[A4]: default gateway is associated to network card associated to A4 connector
	IP address assignment mode associated to A3 connector:
Configuration (Ethernet #1 [A3] / #2 [A4])	 OFF: network card not enabled Static: VM Link IP address is manually assigned by the user DHCP: VM Link IP address is automatically assigned by DHCP server DHCP Server: VM Link assigns IP addresses to other hosts
IP address (Ethernet #1 [A3] / #2 [A4]) [192.168.0.1]	IP address associated to A3 / A4 network card It allows to set IP address to connect VMx5 panel / service
Subnet mask (Ethernet #1 [A3] / #2 [A4]) [255.255.255.0]	IP Subnet mask associated to A3 / A4 network card
Gateway address (Ethernet #1 [A3] or #2 [A4]) [0.0.0.0]	IP Default gateway associated to A3 or A4 network card. Network card association is defined by "Default Gateway" parameter
TCP control port [4000]	TCP – IP Port used for devices communication. Example: 4000
Serial port [ttyAM2]	Serial port identification for control unit connection ttyAM2 : internal port (A1) ttyUSB0 : external port (reserved)
Baud rate [bps] [115200]	Com port baud rate [bps] 9600, 19200, 38400, 57600, 115200



Commands				
lcon	Command name	Button	Description	
1	Devices finding	F1	Apply new settings	
Ģ ⊖ ਃ	Signal OFF Signal ON	F2 F2	Identification OFF Identification ON: Run LED blink 5 times in order to report to the user the connected device	
X	Confirm config.	F3	Confirm and save network configuration	
+	Exit	F6	Exit and restore the automatic tuning	

- Set proper network parameters according with network administrator and press Confirm config.
 button (F3)
- In order to check the correct communication with VMLink, proceed as follow:
 - Go back in VMx5 NETWORK folder pressing associated to A3 connector (i.e.: 192.168.0.1)



(F6) and type the IP address

 Make sure that typed IP address on this parameter is the same as IP address associated to A3 port in VM Link CONFIGURATION folder. Example: 192.168.0.1

VM25 NETWO)RK				
HMI ID					1
HMI node					Remote
Automatic of IP address TCP control VM Link CO	connect port NFIGUR	ion delay (- ATION	1=0FF)	8	-1 192.168.0.1 4000
Default: Local	- Value:	Local, Ren	note		
\checkmark					→ 🚺



start

• Make sure that panel network card, is in the same subnet of VM Link network card (A3). i.e.: IP address 192.168.0.2.

To check, go back to CONNECTION folder e select ETHERNET folder

nivil		
CUSTOM PAGES		
DATALOGGER		
CONNECTIONS		
	JRK	
Dress (ENITER) to ever		
Fress (ENTER) to exec		
	ETHERNET	
	Ethernet Address f8:dc:7a	:23:06:ed
ENTER	Continuention	Statia
	IP address	192.168.0.2
	Subnet mask	255.255.255.0
	Gateway address	0.0.0
Press (ENTER) to	o exec	
ENTER	fault: 192.168.0.1	
		🔺 📄
$\overline{\mathbf{M}}$		
 Press (F1) to co 	onfirm then exit	and go back on system page and
the communication with t	he control unit	



Note: It is possible to temporary set VM Link network card default settings pressing reset button for 5 seconds and waiting until run led starts to blink 2 times.

Default settings will be hold until device is switched ON. Repeat the procedure to change VM Link network card settings.





2.5. Others VM Link configurations

2.5.1. VMx5 HMI and VMx5 Service installed on the same PCU



Service

In this configuration, only A3 Ethernet port is used.

Set IP VM Link parameter, VMx5 Service and HMI host address as follow:

VM Link	IP configuration	Service and HMI connection settings
Parameter	Value	2 VM Service - Ver. 12.0.191025
Primary Eth [A3 – Eth 1]	A3 – Eth 1	VM Control Unit
Cport [4000]	4000	Service System Type: VM25 Show TolTtip: 7 Press F4/F5 to select connection type
Baud rate [bps] [115200]	115200	Host Address: 192.168.0.1 Port: 4000 User F1 F2 F3 F4 F5 F6 F7 F8 Image: The state of
A3 – Eth 1 – Ip mode [Static]	Static	International International Total International
A3 – Eth 1 – Ip [192.168.0.1]	Set desidered address to associate both VMx5 HMI and VMx5 Service. (i.e.: 192.168.0.1)	Ø Manual management of the communication layer HBUD 1 Ø U 1 </th
A4 – Eth 2 – Ip [10.0.0.1]	Port not used	

Make sure that PCU network card on which VMx5 HMI and VMx5 Service is installed, is in the same subnet of VM Link network card (A3). i.e.: IP address 192.168.0.2.

Details about each parameter are described in sections 2.2, 2.3 and 2.4.



2.5.2. VMx5 Panel and Service both connected directly to VM Link



In this configuration, both A3 and A4 Ethernet ports are connected to VMx5 Panel and VMx5 Service respectively.

Set IP VM Link parameter, VMx5 Service and Panel host address as follow:

VM Link	(IP configuration	Service and HMI connection settings
Parameter	Value	VM Service - Ver. 12.0.191025
Primary Eth [A3 – Eth 1]	A3 – Eth 1	
Cport [4000]	4000	System Type: VM25 Show TollTip: Press F4/F5 to select connection type Login
Baud rate [bps] [115200]	115200	Host Address: 10.0.1 Port: 4000 User F1 F2 F3 F4 F5 F6 F7 F8 Image: State Stat
A3 – Eth 1 – Ip mode [Static]	Static	HMI ID 1 HMI node Remote Automatic connection delay (-1=OFF) s -1 IP address 192.168.0.1 TCP control port 4000
A3 – Eth 1 – Ip [192.168.0.1]	Set desidered address to associate VMx5 Panel. (i.e.: 192.168.0.1)	VM Link CONFIGURATION
A4 – Eth 2 – Ip [10.0.0.1]	Set desidered address to associate VMx5 Service. (i.e.: 10.0.0.1)	Default: Local - Value: Local, Remote



Make sure that panel network card, is in the same subnet of VM Link network card (A3). i.e.: IP address 192.168.0.2.

ETHERNET				
Ethernet Address	f8:dc:7a:23	:06:ed		
Configuration			1 1	Static 92 168 0 2
Subnet mask			255	5.255.255.0
Gateway address				0.0.0.0
Default: 192 168 0 1				
Derault. 132.100.0.1				
\mathbf{V}				➡

Make sure that PC network card on which VMx5 Service is installed, is in the same subnet of VM Link network card (A4). i.e.: IP address 10.0.0.2.

Details about each parameter are described in sections 2.2, 2.3 and 2.4.



2.5.3. VMx5 HMI and Service both connected directly to VM Link



In this configuration, both A3 and A4 Ethernet ports are connected to VMx5 HMI and VMx5 Service respectively.

Set IP VM Link parameter, VMx5 Service and HMI host address as follow:

VM Link	IP configuration	Service and HMI connection settings
Parameter	Value	VM Service - Ver. 12.0.191025
Primary Eth [A3 – Eth 1]	A3 – Eth 1	
Cport [4000]	4000	System Type: VM25 Show TolTTip: Press F4/F5 to select connection type Login
Baud rate [bps] [115200]	115200	Host Address: 10.0.1 Port: 4000 User F1 F2 F3 F4 F5 F6 F7 F8 F1 F2 F3 F4 F5 F6 F7 F8
A3 – Eth 1 – Ip mode [Static]	Static	Longong Ownershill Super (Data recording Data Super) Peter (MALINI TOTPO configuration Heat Advances 192.168.0.1 Heat Advances 192.168.0.1 Heat Advances 192.168.0.1 With Advances 192.168.0.1 Heat Advances 192.168.0.1 With Advances 192.168.0.1 Heat Advances 192.168.0.1 With Advances 192.168.0.1 Heat Advances 192.168.0.1 Heat Advances 19
A3 – Eth 1 – Ip [192.168.0.1]	Set desidered address to associate VMx5 HMI. (i.e.: 192.168.0.1)	COM Port
A4 – Eth 2 – Ip [10.0.0.1]	Set desidered address to associate VMx5 Service. (i.e.: 10.0.0.1)	

Make sure that PCU and PC network cards on which VMx5 HMI and VMx5 Service are installed, are in the same subnet of VM Link network cards (respectively A3 and A4). i.e.: IP address 192.168.0.2 and 10.0.0.2. Details about each parameter are described in sections 2.2, 2.3 and 2.4.



2.5.4. VMx5 Service directly connected to VM Link and remoted panels and HMI



In this configuration, both A3 and A4 Ethernet ports are connected to Ethernet Hub and VMx5 Service respectively.



Set IP VM Link parameter, VMx5 Service, HMI and host address as follow:

VM Link	IP configuration	Service and HMI connection settings
Parameter	Value	VM Service - Ver. 120.191025
Primary Eth [A3 – Eth 1]	A3 – Eth 1	
Cport [4000]	4000	Press F4/F5 to select connection type Host Address: 10.0.0.1 Port: 4000 F1 F2 F3 F4 F5 F6 F7 F8 F1 F2 F3 F4 F5 F6 F7 F8 F1 F2 F3 F4 F5 F6 F7 F8 F1 F2 F3 F4 F5 F6 F7 F8
Baud rate [bps] [115200]	115200	HMI ID 1 HMI node Remote Automatic connection delay (-1=OFF) s -1 IP address 192.168.0.1 TCP control port 4000 VM Link CONFIGURATION
A3 – Eth 1 – Ip mode [Static]	Static	Default: Local - Value: Local, Remote
A3 – Eth 1 – Ip [192.168.0.1]	Set desidered address to associate remoted VMx5 HMI and Panel (via Ethernet Hub). (i.e.: 192.168.0.1)	Vertra conference la porce la forgar la porce della recordara da la porce della record
A4 – Eth 2 – Ip [10.0.0.1]	Set desidered address to associate VMx5 Service. (i.e.: 10.0.0.1)	

Make sure that PCU and PC network cards on which VMx5 HMI and VMx5 Service are installed, are in the same subnet of VM Link network cards (respectively A3 and A4). i.e.: IP address 192.168.0.2 and 10.0.0.2.



Make sure that panel network card, is in the same subnet of VM Link network card (A3). i.e.: IP address 192.168.0.3.

ETHERNET					
Etherne	t Address i	f8:dc:7a:23	:06:ed		
Configur IP addres	ation ss			1	<u>Static</u> 92.168.0.3
Subnet r Gatewa	nask y address			255	.255.255.0 0.0.0.0
Default: 19:	2.168.0.1				
\mathbf{V}					+

Details about each parameter are described in sections 2.2, 2.3 and 2.4.



2.5.5. Remoted panels, HMI and VMx5 Service



In this configuration, only A3 Ethernet port is used.



Set IP VM Link parameter, VMx5 Service, HMI and Panel host address as follow:

VM Link	IP configuration	Service and HMI connection settings
Parameter	Value	WM Service - Ver. 120.191025
Primary Eth [A3 – Eth 1]	A3 – Eth 1	
Cport [4000]	4000	Press F4/F5 to select connection type Host Address: 192.168.0.1 Port 4000 F1 F2 F3 F4 F5 F6 F7 F8 F1 F2 F3 F4 F5 F6 F7 F8 F1 F2 F3 F4 F5 F6 F7 F8 F1 F2 F3 F4 F5 F6 F7 F8
Baud rate [bps] [115200]	115200	Total and Augusta Total and configed Data logged Parts: VAK.uki Total and configed Data logged Parts: VAK.uki Total and configed Data logged Parts: VAK.uki Total and configed Data logged Parts: VAK.uki Total and configed Data logged Parts: VAK.uki Total and configed Data logged Parts: VAK.uki Total and configed Data logged Parts: VAK.uki Total and configed Data logged Parts: VAK.uki Total and configed Data logged Parts: VAK.uki Total and configed Data logged Parts: VAK.uki Total and configed Data logged Parts: VAK.uki Based rate (bet) Total and configed Data logged Parts: Total and configed Data logged Data logged Parts: Total and configed Data logged Parts: Total and configed Data logged Data log
A3 – Eth 1 – Ip mode [Static]	Static	
A3 – Eth 1 – Ip [192.168.0.1]	Set desidered address to associate both VMx5 HMI and VMx5 Service. (i.e.: 192.168.0.1)	HMI ID 1 HMI node Remote Automatic connection delay (-1=OFF) s -1 IP address 192.168.0.1 TCP control port 4000 VM Link CONFIGURATION VM Link CONFIGURATION 1
A4 – Eth 2 – Ip [10.0.0.1]	Port not used	Default: Local - Value: Local, Remote

Make sure that PCU network cards on which VMx5 HMI and VMx5 Service are installed, are in the same subnet of VM Link network card (A3). i.e.: IP address 192.168.0.2 and 192.168.0.4.



Make sure that panel network card, is in the same subnet of VM Link network card (A3). i.e.: IP address 192.168.0.3.

ETHERNET					
Etherne	t Address i	f8:dc:7a:23	:06:ed		
Configur IP addres	ation ss			1	<u>Static</u> 92.168.0.3
Subnet r Gatewa	nask y address			255	.255.255.0 0.0.0.0
Default: 19:	2.168.0.1				
\mathbf{V}					+

Details about each parameter are described in sections 2.2, 2.3 and 2.4.



3. VM Link firmware upgrade

3.1. Firmware upgrade by VMx5 service

Firmware upgrade/downgrade, backup and restore are executable by VMx5 service as the same as all balance systems functions cards. Further details are specified on 9UMENX512-1200 yymmdd VMx5 Service manual.

3.2. Firmware upgrade by A2 USB port

Local VM Link firmware upgrade is executable with USB hard drive directly connected to A2 USB port following these few steps:

3.2.1. USB pen-drive setup

 Insert an USB pen-drive into an USB port of the PC. The pen-drive should be formatted as FAT32. If the pen-drive is not formatted the VMX5 service will do it.



- Open VMx5 Service and press the button
 to enter in the procedure
- Select an update package file (file type "*.BSz " or "*.BSz15 " or "*.BSz25 ") provided by Balance Systems and press "open" to start the creation of the device.

Select an update package file provided by Balance Systems					
🕞 🕞 🗢 🕌 🕨 Computer 🕨	Windows (C:)	▶ Release ▶ VM25	✓ 4 Sea	rch VM25	Q
Organize 🔻 New folder				 ≡ ▼	
) MSOCache	*	Name	Date modified	Туре	Size
PerfLogs Program Files Program Files Program Files (x86) Program Data ProgrammicAD Release VM25 SWSETUP SVSTEM.SAV	H	Vm25_v120_170324.85z25	24/03/2017 14:06	BSZ25 File	38.162 KB
📗 Temporal	-	•	III		•
File <u>n</u> ame:	Vm25_v120_	170324.BSz25		S Firmware Files (*)pen	.bspkg;* 🔻 Cancel



😵 VM Service - Ver. 12.0.170	323		1		
Connection Type: RS-485		COM Port: CO	M1	I	Login: User
Connection State: Connect	ed - 50	Baudrate: 115	200 Mode:	AUTO	
Device	ID	Version	EE Status		
	Mal	king bootable Pan	el USB Key		
	•	+	Q	<u>↓</u>	

• At the end of the procedure, the following message will appear on screen.

-	To perform firmware update: power off the VM Rack; insert the USB Key into the Multinet board: power on the VM Rack
	and wait until the green LED stops blinking. Power off again remove the USB key and power on
	VM25 Panel firmware ver. 12.0.191106
	To upgrade the VM Panel: power off the VM Rack; insert the
	Rack keeping the "Setup (8)" button pressed. Then follow the
	instructions on the display.
	VM Link firmware ver. 12.0.191106
	To upgrade the VM Link: power off the VM Rack; insert the
	USB Key in in the A2 connectorl; power on the VM Rack keeping the "Reset button" pressed. Keep pressed the reset
	button until run led start to fast blink then, release it.
	Package file firmware ver. Vm25_v120_191106
	Folder tree to update VM25 Panel from USB is been
	succeeded make.
	Do you want remove now the LICE key?
	by you want remove now the 030 key:
	Yes No.
	10





3.2.2. Firmware upgrade

- Switch off VM Link device.
- Insert USB hard drive in the A2 connector.
- Using a paper clip, press the reset button as indicated below and switch on VM Link device. Keep pressed the reset button until run led start to fast blink then, release the reset button.



- Wait until run led start to blink as "Working normally" mode (LED blink 3 times).
- If some errors occours, run led start to blink as specified in the section 1.3



4. Appendix

Documents referred to in the text				
Name document	Paragraphs	Link		
Components	<u>1.2.1</u>	9UMEN2506-1200 VM25 Components.pdf		
Setup parameters	<u>3.3, 4</u>	9UMEN1505-1200 Parameter Setup.pdf		
Service	<u>2, 3.2,</u> <u>3.3.2, 3.3.3</u>	9UMEN0012-1100 VM25 Service v110 En.pdf		
User panel	4	9UMEN0014-1200 VM25 Panel User v120 En.pdf		