

New software functionality for the VAMP 230 and VAMP 255 feeder and motor manager series



The feeder/motor manager is used for applications where combined protection, remote and local control, measurement, power quality, alarming and status indication functions are needed. The manager is suitable for industrial, power plant, utility and secondary power distribution installations.

We have now introduced new functionality in these managers available from firmware release 5.21 onwards as follows.

Language support

Language packets can now be downloaded with VAMPSET software. Standard language packets in each delivery are Finnish and English. Swedish, French and German are now supported as an additional language packet. Any other language can be easily translated, however, only Latin characters are supported.

External LED panel

An external led module provides 16 extra led-indicators in external casing. There are three modes available: normal, latched and blinking. Resetting of the activated channel is done with the push buttons on the relay front.



Figure 1 VAM 16 D external LED panel as a part of the feeder/motor manager VAMP 255

The module is placed to the serial port of the front panel of the manager and can remain under the plastic cover of the manager. The order code for the module is VAM 16D. More information is available on User's manual VM16D.EN001 at www.vamp.fi.

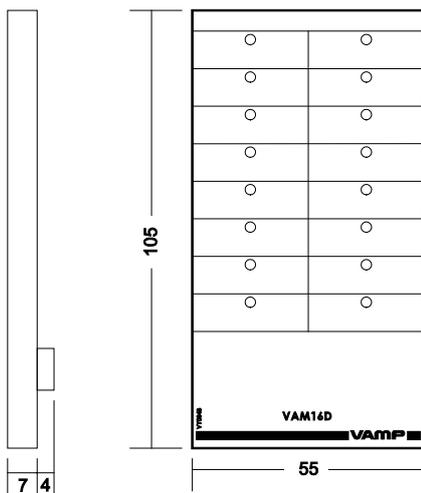


Figure 2 Dimensions of VAM 16 D

The VAM 16D module can be configured using VAMPSET. A user-friendly matrix is used for linking any output signal in the manager to the led display of VAM 16D.

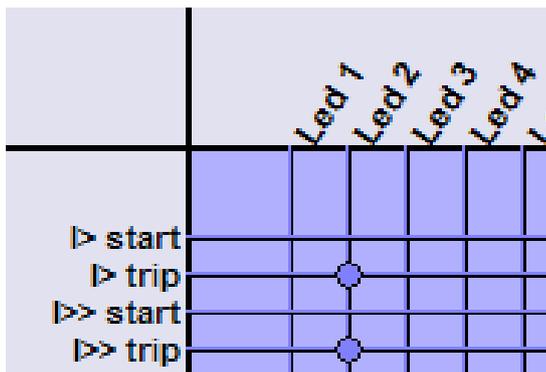


Figure 3 External LED matrix view in VAMPSET

Measurement & calculation

Configurable demand time 10...15 min is now available for current, voltage, active, reactive and apparent power measurements. Furthermore, True RMS measurements are available now.

Virtual inputs (VIX) and outputs (VOX)

The virtual inputs (VIX) are memory storage locations which can be controlled through selectable buttons on the mimic screen, communication protocol or logic. There are four (4) virtual inputs and two (2) outputs locations. The virtual outputs (VOX) are available on the output matrix as well.

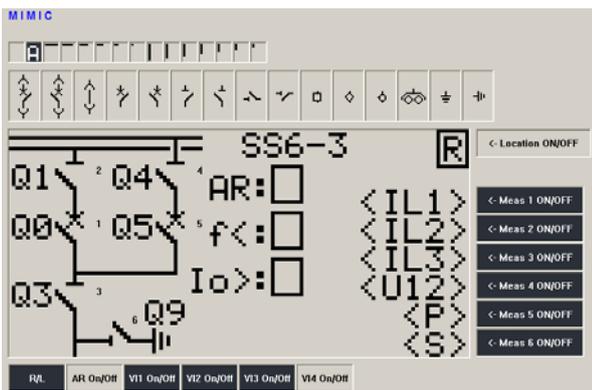


Figure 4. Mimic editor with virtual inputs in VAMPSET

Enhanced motor protection

External Modbus I/O modules can be used to extend I/O's of the manager. DI-934MB module manufactured by DataQ Instruments Inc. or Adam 4015-B module from Advantech Co. Ltd are suitable for this case. These modules allow:

- connection of Pt100 sensors to the manager up to 16
- two programmable alarms for each analog input
- ambient temperature reading and transfer to the thermal overload element T>
- analog channel configuration and alarm limit setting using the VAMPSET
- temperature transfer by remote communications
- temperature values can be shown in the mimic display next to the single line diagram

DNP 3.0 available

The comprehensive protocol list of the manager series has got a new addition. DNP 3.0 protocol is now available. This first implementation corresponds to the service level 2, but it will be developed further, so that finally, we will have the service level 3.

Disturbance recording downloading over IEC 60870-5-103

The disturbance recorder file stored at VAMP 230/245/255 manager can now be downloaded through the IEC 60870-5-103 protocol. Furthermore, it is also possible to transfer setting parameters over the bus, if the master is supporting it.

Profibus update

It is now possible to control objects in the continuous mode. This was earlier possible only in the request mode.

Synchrocheck function

A new control function has also been added. There are two stages available, each of which can monitor different voltages. Thus, one manager can handle synchrochecking for two incomers. Please refer to the latest VAMP 230/255 manual for detailed information about the function.

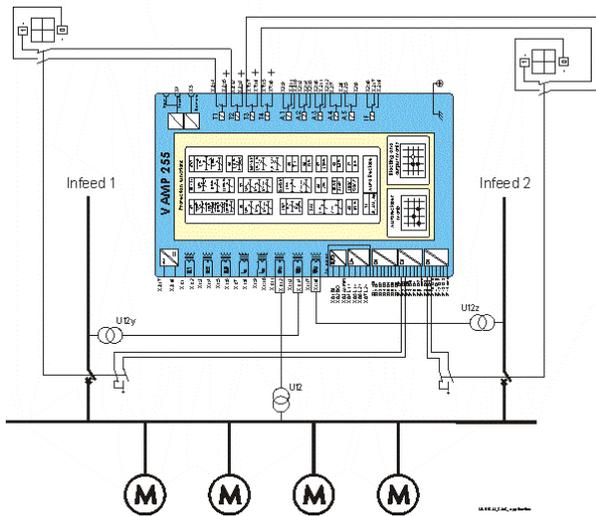


Figure 5 Two infeed synchrocheck application

Programmable stages

There are now eight stages available to use with various applications. Each stage can monitor any analog (measured or calculated) signal and issue start and trip signals. Programmable stages extend the protection functionality of the manager series to a new level. For example, if four stages of frequency stages are not enough, with programmable stages, the maximum of 12 stages can be reached. Another example is using the stages to issue an alarm when there are a lot of harmonics (THD).

Earth-fault location

VAMP has taken the first step to enable the localization of earth faults. Although this is only for compensated networks, we continue developing towards other network types, as well. In this first step, the earth fault location is accurate, if the fault impedance is quite low, say less than 100 ohms. Furthermore, the function requires a change during the fault. This change is that the secondary resistor of the compensation coil is switched on during the fault in order to increase the active component of the earth fault.

Auto-recloser update

There are several small changes in the AR function. These changes enable better sequence handling. Please refer to the latest manual for detailed information. Furthermore, it is now possible to enable an information screen of AR. This screen is very useful to see the status of AR function. It is also possible to show the five most important AR counters in the mimic display next to the single line diagram.

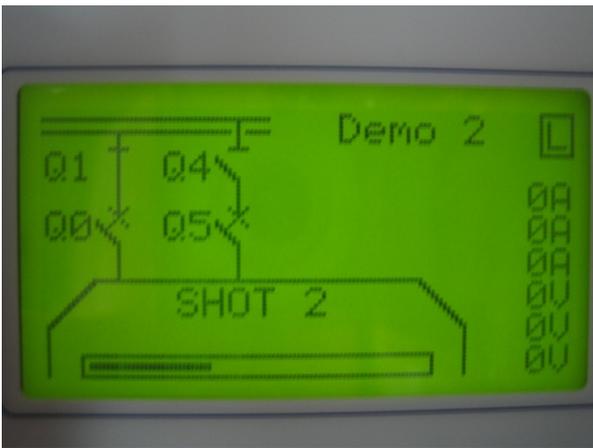


Figure 6 AR status on HMI

Now, a new current measurement method has been introduced to detect the fault even better. This new measurement is peak measurement and it is available for directional and non-directional earth fault stages.

More sensitive Io input

Now it is possible to have 0.2 A and 1.0 A rated current inputs for earth fault current measurement. Since this is a hardware option, it must be specified in the order code. These inputs are more sensitive to low earth fault currents which are typical in isolated, compensated and high-resistance earthed networks.

Enhanced logic

The logic editor has now more color to enable better viewing of active statuses. Furthermore, now each input status can be also seen on-line.

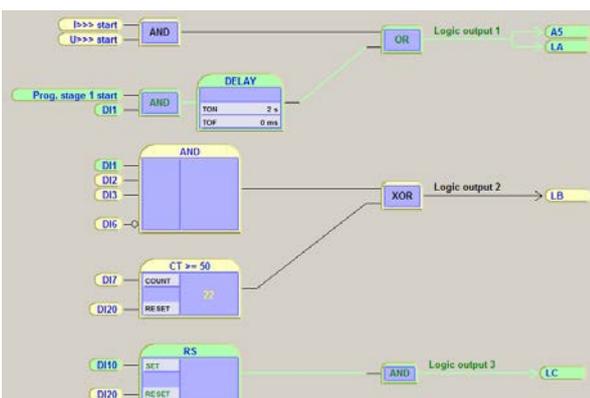


Figure 7. Revised logic editor in VAMPSET

New displays

There are several new displays in the HMI of the manager. Please refer to the latest manual for the information. Here are some examples:

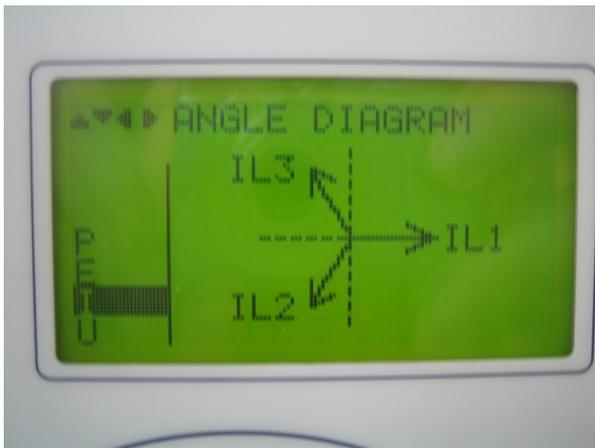


Figure 8 Angle diagram of the phase currents on HMI

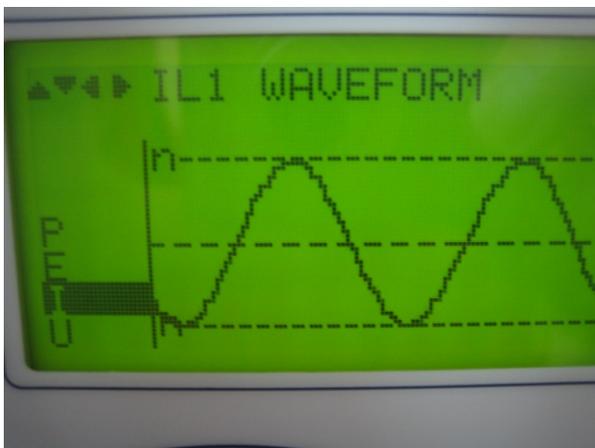


Figure 9 Phase current waveform on HMI

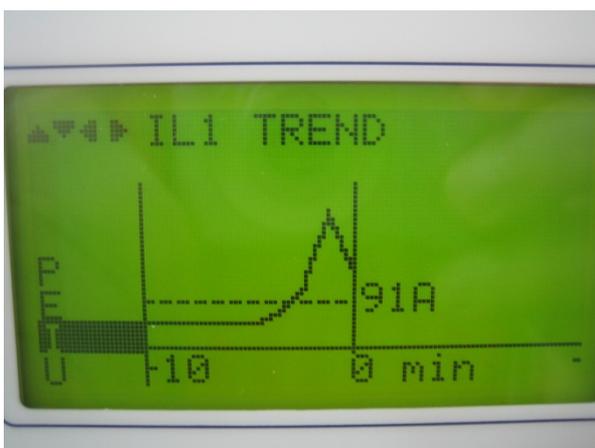


Figure 10 Phase current trend on HMI

New digital input configuration

VAMPSET has now a better configuration window for all the digital inputs. Furthermore, all the inputs can now be renamed. If an alarm screen is used, any digital input can now be configured to trigger the alarm screen.

DIGITAL INPUTS

Input	State	Polarity	Delay	On Event	Off Event	Alarm display	Counters
1	0	NO	0.00 s	On	On	On	21
2	0	NO	0.00 s	On	On	On	2
3	0	NO	0.00 s	On	On	On	3
4	0	NO	0.00 s	On	On	On	2
5	0	NO	0.00 s	On	On	On	4
6	0	NO	0.00 s	On	On	On	3
7	0	NO	0.00 s	On	On	On	81
8	1	NO	0.00 s	On	On	On	75
9	0	NO	0.00 s	On	On	On	21
10	1	NO	0.00 s	On	On	On	34
11	0	NO	0.00 s	On	On	On	17
12	1	NO	0.00 s	On	On	On	33
13	1	NO	0.00 s	On	On	On	39
14	0	NO	0.00 s	On	On	On	10
15	1	NO	0.00 s	On	On	On	39
16	0	NO	0.00 s	On	On	On	36
17	1	NO	0.00 s	On	On	On	40
18	0	NO	0.00 s	On	On	On	6
19	0	NO	0.00 s	On	On	On	1
20	0	NO	0.00 s	On	On	On	1

Figure 11 Digital input configuration menu in VAMPSET

New event masking configuration

VAMPSET has now a better configuration window for event masking. All the protection functions events can be disabled/enables in a single window.

STAGE EVENT ENBLING

	Start On' event	Start Off event	Trip On' event	Trip Off event
> events	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
>> events	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
>>> events	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IDir> events	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IDir>> events	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IDir>>> events	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IDir>>>> events	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I< events	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I2> events	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I2>> events	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Io> events	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Io>> events	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IoDir> events	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IoDir>> events	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Io2> events	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Io2>> events	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Uo> events	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Uo>> events	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Figure 12 Event masking menu in VAMPSET

VAMPSET software required to support VAMP 230 / 255 firmware 5.21 release

In order to get above mentioned features available correctly on the VAMPSET views a firmware of v. 1.3 or greater is required. The latest VAMPSET firmware is downloadable at www.vamp.fi / Support / Software downloads.

VAMP 230 / 255 hardware compatibility with the new software

Please note that this software requires a bigger memory. Therefore, please always check that your device has the latest CPU hardware version. The easiest way to be sure, is to check that the serial number of the device is greater than **011842**. Please also note that when updating the device, VAMPSET will check the compatibility and abort the updating if the hardware is not the correct one.

Schneider Electric

35 rue Joseph Monier
92506 Rueil-Malmaison
FRANCE

Phone: +33 (0) 1 41 29 70 00
Fax: +33 (0) 1 41 29 71 00

www.schneider-electric.com

Publishing: 09/2018

© 2018 Schneider Electric Industries SAS - All rights reserved.
Electrical equipment should be installed, operated, serviced,
and maintained only by qualified personnel. No responsibility
is assumed by Schneider Electric for any consequences
arising out of the use of this material.