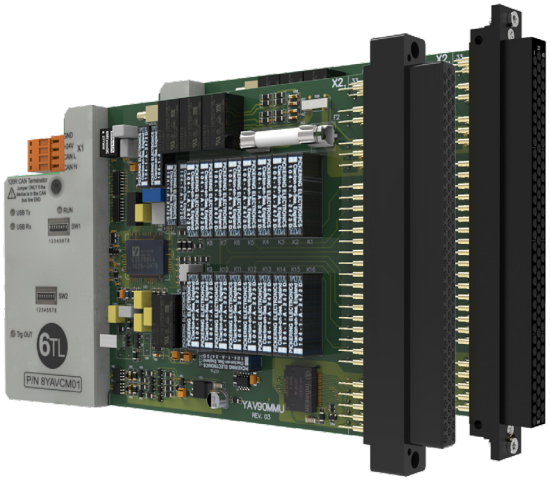
YAV90MMU

4¾ Digit DMM with 16-Ch Mux

Up to 600V and 2K steps of automatic measurements

- 4¾ digit True RMS Auto-Range, up to 600 V_{AC}
- V_{AC}, V_{DC}, Ohms, Pt100, I_{AC}, I_{DC}, Capacitors, Diodes
- Frequency meter (Up to 400 MHz) and Duty Cycle (Up to 1 MHz)
- Peak hold function
- Scanner x16 [600V_{RMS} Measurement Channels]
- Dielectric Withstanding Voltage (DWV) >1500V between Measurement Channels
- Two isolated and programmable pulse generator channels. Selectable output voltage
- External Trigger-In and Trigger-Out SMB connectors
- CAN bus or Ethernet control
- Ethernet to CAN bus gateway
- 8 Programmable digital outputs (PNP 24VDC 300mA)
- Up to 10 readings per second
- High quality connector module (> 20.000 mates)
- Built-in test steps sequencer
- Size: form G



As good as it gets

YAV90MMU module (Multiplexed Measurement Unit) is a powerful subsystem containing 16-channel multiplexer and a 600V data acquisition channel with capability to control external switching and it is expandable through CAN bus.

The MMU has been designed to fulfill the needs of the most common electronics production testers, where 'PASS/FAIL' measurements are needed, and therefore the range of 4¾ digits is more than enough.

This module can measure either in auto-range mode or in manual-range mode. The MMU can perform the most common general-purpose measurements: AC/DC Voltage and Current, Frequency, Resistance, Capacitance and Diodes.

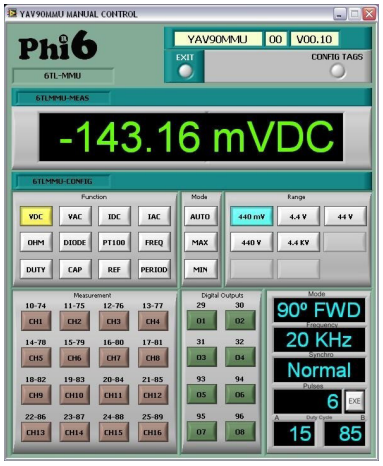
Thanks to the MMU integrated high voltage switching, measurement channels can be connected to different power supplies or to the grid phases, where differential voltage can be up to 600VAC.

The MMU can work in three different modes:

- Master mode. The MMU is operating as a standalone tester by executing a script-based test sequence and returning a PASS or a FAIL. The script is uploaded to the MMU through Ethernet. The MMU will operate as CAN gateway for other CAN bus modules in the same network (other switching modules).

- Slave CAN mode. A PC will execute the test sequence. Measurement results are available in the CAN bus. Ethernet is not operative.

- Slave Gateway mode. Link to the PC through Ethernet, so the MMU, thanks to its CAN gateway, can handle other CAN commands to other CAN bus modules.



DESIGNED FOR TEST
PART OF MG-PRODUCTS

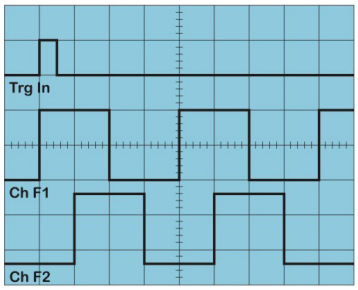
Measurement capabilities

Parameter	Unit	Range	External transducer	MMU scale/range
AC Voltage	$V_{AC\ RMS}$	0…600 V	-	440mV…4K4V
AC Current	A_{AC}	0…10 A		440µA…44A
Capacitors	C	4nF…40mF		4n2F…40000µF
DC Voltage (*)	V_{DC}	0…600 V		440mV…4K4V
DC Current (**)	I_{DC}	0…10 A		440µA…44A
Diodes	VDC	0….2,7 V		2.7V
Frequency	Hz	0.5Hz…409.6MHz		40Hz…400MHz
Duty Cycle	%			1 … 100%
Period	s			100s…10µs
Resistors	Ω	0Ω…42MΩ		420Ω…42MΩ
Temperature	°C	-40…+200°C	Pt 100	200°C

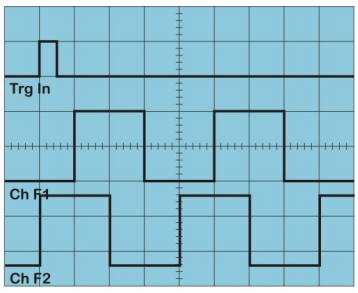
(*) for less than 440mV measurement use ‘440mV’ input, not switched channels.
(**) for more than 440mA measurement use ‘10A’ input, not switched channels.

Ch Pulse Generator with Trigger

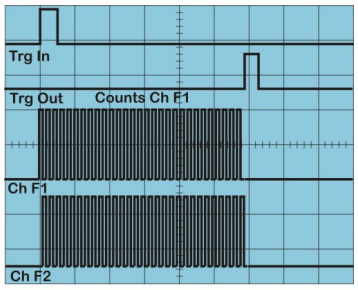
Channel modes: Independent, Quadrature, Burst, Duty Cycle, with programmable frequency, counts or cycle time.



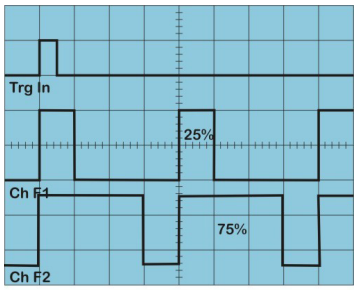
Quadrature FWR



Quadrature REV



180° Phase Shift

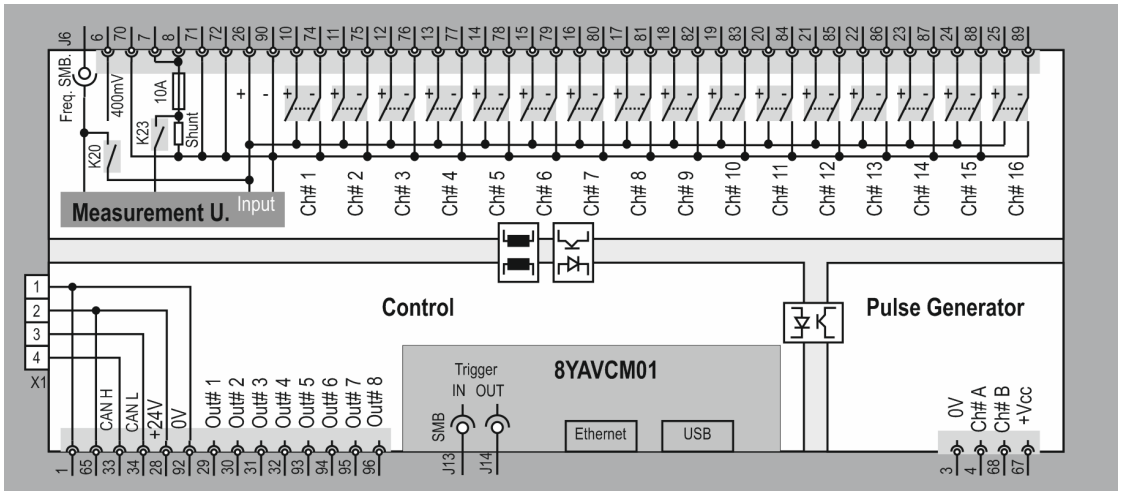


Duty Cycle

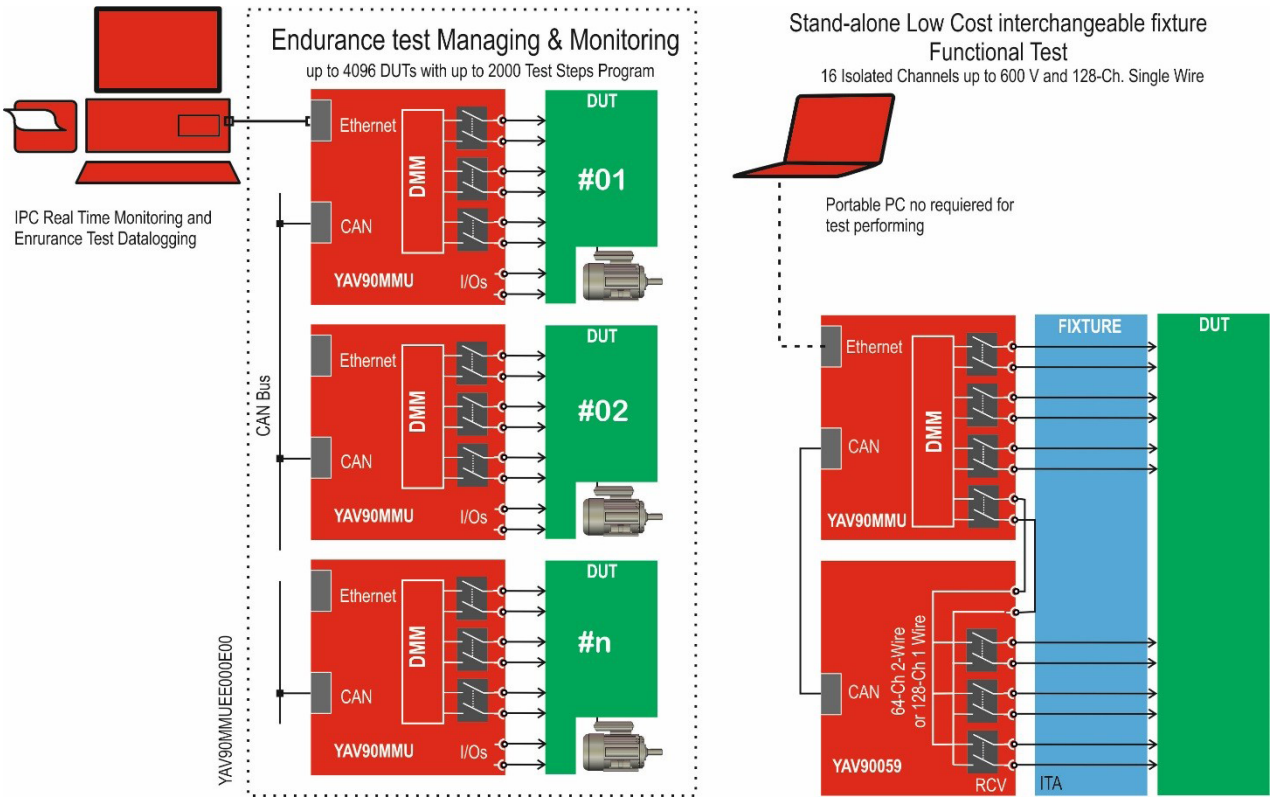
Order information

Item	Part Number
4¾ Digit DMM w/ 16-Ch Mux w/ VPC Connector	**YAV90MMU**
4¾ Digit DMM w/ 16-Ch Mux w/ Mac P. Connector	**YMMMU**

Connections diagram



Applications



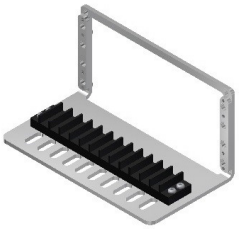
Spare parts and related products

Item	Part Number
64-Ch 2-Wire 2A Multiconfiguration Multiplexer	**YAV90059**
48-Ch SPDT 2A Isolated Relays	**YAV91074**
12-Ch SPST 10A Isolated Relays with 8 Current measurement shunt (10-mOhm)	**AR438**
Compack Rack for YAV90MMU, 24VDC Power supply, YAV90CANCON and room for 3 YAV Modules	**YAVPACK00**
YAVPack 4-Slots ITA Frame	**YAVPACKF4**
MMU Master Script Edition Software	**H68002500**
TriPaddle Module ITA 96 Pos.	**VPC510108126**
Tripaddle ITA contact 20-24 AWG 30u Gold	**VPC610110108**
Tripaddle ITA 36” Twisted pair patchcord	**7-103422000-036**
ITA self-test adapter module	**YAV90MUCK**

ITA module and contacts - RCV YAV Pack

P/N VPC510108128

P/N VPC 7-103422000-036



P/N YAVPACKF4

P/N YAVPACK00

ITA calibration kit

The calibration kit includes an electronic module that can be plugged directly into the unit to be tested. It features a resistor, a capacitor and voltage standards. It facilitates quick and local calibration of the YAV90MMU module. It has 4mm banana inputs to operate as a standalone multimeter.
It also includes the tool making the VPC modules disconnection easier.

Downloads

- NI LabView VI’s and DLL drivers

MMU Master Script Edition software

The Master Script Edition software application is based on a test executive program. It has great possibilities, including creating conditional jumps or loops and the possibility that the test program is created, edited and verified by people without specific programming training.

In addition to managing the YAV90MMU it can operate other switching modules of the YAV family. Once the program has been edited on a PC it is loaded into the YAV90MMU module and it is ready to run it without a PC connection.

The power of the YAV90MMU module and the simplicity of this programming tool make it possible to successfully tackle important projects with a limited budget.

Slot	Board																	
0	YAV90MMU	S/N	1082296		Sending status:	Ok		MMU Test Sequence Script										
1	YAV90CIN					SCRIPT UPLOAD												
2																		
3					UUT S/N													
		Chan.		Chan.						Tolerance		PASS	Time	Duty cycle		Pulses	Fail
Step	Board OFF	OFF	Board ON	ON	Measurement Name	Magnitude	Range	Acquired	Expect.Val	Low	High	FAIL	(s)	1	2	(n)	Action
0			YAV90MMU	O1	Enable YAV90CIN							---					Skip
1	YAV90CIN-1	ALL			Reset ALL YAV90CIN							---					Continue
2			YAV90MMU	CH4	Measure 24V	VDC	44 V	23.413 VDC	24.000	1.000	1.000	PASS					Continue
3			YAV90MMU	CH16	Measure K1 OFF	OHM	42 Mohm	OverLoad	42.000	1.000	1.000	PASS					Continue
4			YAV90CIN-1	K1	Connect K1							---					Continue
5			YAV90MMU	CH16	Measure K1 ON	OHM	420 ohm	0.57 Ohm	0.50	0.20	0.20	PASS					Continue
6	YAV90CIN-1	K1	YAV90MMU	CH15	Measure K2 OFF	OHM	42 Mohm	OverLoad	42.000	1.000	1.000	PASS					Continue
7			YAV90CIN-1	K2	Connect K2							---					Continue
8			YAV90MMU	CH15	Measure K2 ON	OHM	420 ohm	0.65 Ohm	0.50	0.20	0.20	PASS					Continue
9	YAV90CIN-1	K2	YAV90MMU	CH14	Measure K3 OFF	OHM	42 Mohm	OverLoad	42.000	1.000	1.000	PASS					Continue
10			YAV90CIN-1	K3	Connect K3							---					Continue
11			YAV90MMU	CH14	Measure K3 ON	OHM	420 ohm	0.65 Ohm	0.50	0.20	0.20	PASS					Continue
12	YAV90CIN-1	K3	YAV90MMU	CH13	Measure K4 OFF	OHM	42 Mohm	OverLoad	42.000	1.000	1.000	PASS					Continue
13			YAV90CIN-1	K4	Connect K4							---					Continue
14			YAV90MMU	CH13	Measure K4 ON	OHM	420 ohm	0.65 Ohm	0.50	0.20	0.20	PASS					Continue
15	YAV90CIN-1	K4	YAV90MMU	CH12	Measure K5 OFF	OHM	42 Mohm	OverLoad	42.000	1.000	1.000	PASS					Continue
16			YAV90CIN-1	K5	Connect K5							---					Continue
17			YAV90MMU	CH12	Measure K5 ON	OHM	420 ohm	0.70 Ohm	0.80	0.30	0.30	PASS					Continue
18	YAV90CIN-1	K5	YAV90MMU	CH11	Measure K6 OFF	OHM	42 Mohm	OverLoad	42.000	1.000	1.000	PASS					Continue
19			YAV90CIN-1	K6	Connect K6							---					Continue
20			YAV90MMU	CH11	Measure K6 ON	OHM	420 ohm	0.70 Ohm	0.80	0.30	0.30	PASS					Continue
21	YAV90CIN-1	K6	YAV90MMU	CH10	Measure K7 OFF	OHM	42 Mohm	OverLoad	42.000	1.000	1.000	PASS					Continue
22			YAV90CIN-1	K7	Connect K7							---					Continue
23			YAV90MMU	CH10	Measure K7 ON	OHM	420 ohm	0.74 Ohm	0.80	0.30	0.30	PASS					Continue
24	YAV90CIN-1	K7	YAV90MMU	CH9	Measure K8 OFF	OHM	42 Mohm	OverLoad	42.000	1.000	1.000	PASS					Continue
25			YAV90CIN-1	K8	Connect K8							---					Continue
26			YAV90MMU	CH9	Measure K8 ON	OHM	420 ohm	0.72 Ohm	0.80	0.30	0.30	PASS					Continue
27	YAV90CIN-1	K8	YAV90MMU	CH8	Measure K9 OFF	OHM	42 Mohm	OverLoad	42.000	1.000	1.000	PASS					Continue
28			YAV90CIN-1	K9	Connect K9							---					Continue
29			YAV90MMU	CH8	Measure K9 ON	OHM	420 ohm	0.86 Ohm	0.80	0.30	0.30	PASS					Continue
30	YAV90CIN-1	K9	YAV90MMU	CH7	Measure K10 OFF	OHM	42 Mohm	OverLoad	42.000	1.000	1.000	PASS					Continue
31			YAV90CIN-1	K10	Connect K10							---					Continue
32			YAV90MMU	CH7	Measure K10 ON	OHM	420 ohm	0.83 Ohm	0.80	0.30	0.30	PASS					Continue
33	YAV90CIN-1	K10	YAV90MMU	CH6	Measure K11 OFF	OHM	42 Mohm	OverLoad	42.000	1.000	1.000	PASS					Continue
34			YAV90CIN-1	K11	Connect K11							---					Continue
35			YAV90MMU	CH6	Measure K11 ON	OHM	420 ohm	0.83 Ohm	0.80	0.30	0.30	PASS					Continue
36	YAV90CIN-1	K11	YAV90MMU	CH5	Measure K12 OFF	OHM	42 Mohm	OverLoad	42.000	1.000	1.000	PASS					Continue
37			YAV90CIN-1	K12	Connect K12							---					Continue
38			YAV90MMU	CH5	Measure K12 ON	OHM	420 ohm	0.79 Ohm	0.80	0.30	0.30	PASS					Continue
39	YAV90CIN-1	K12			Disconnect K12							---					Continue
40	YAV90MMU	O1			Disable YAV90CIN							---					Skip
41												---					Finish

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