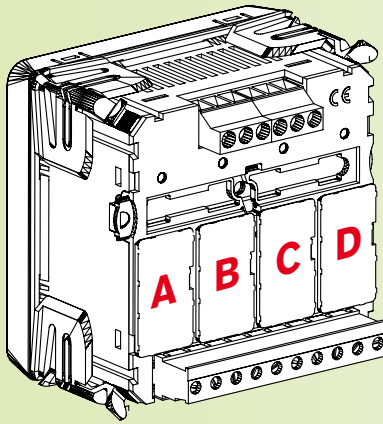


# Nemo IF Series

## Modules for Nemo 96 HD Series Multifunction Power Monitors

### Module Types and Positions



Model	Description	N. Max	Position				Firmware **
			A	B	C	D	
IF96001	RS485 communication	1	•				** Firmware version supported by the plug in module.  Note: By using an IF96001 (RS485) or IF6002 (RS232) communication module it is possible to update the firmware version (starting at version 2.00) directly in the field using a PC and the download software.
IF96002	RS232 communication	1	•				
IF96003	2 energy pulse output	2	•	•	•	•	
IF96004	2 analogue outputs 0/4...20mA	2			•	•	
IF96005	2 alarms	2	•	•	•	•	
IF96006	Neutral current	1			•		
IF96007	PROFIBUS communication	1	•				
IF96008	1 energised output	?	•	•	•	•	
IF96009	LonWorks communication	1	•				
IF96010	I/O 2 inputs SPST - 2 outputs SPST	2		•	•	•	
IF96011	I/O 2 inputs 12...24Vdc - 2 outputs SPST	2		•	•	•	
IF96012	RS485 - Energy value storage	1	•				
IF96013	M BUS communication	1	•				
IF96014	Bacnet MS-TP communication	1	•				

### Please Note

The following meters have restrictions to the modules that can be used with them:-

#### Nemo 96HDL

Only modules IF96001 and IF96002 (others on request).

#### Nemo 96HD (2 Slot)

Only modules IF96001, IF96002, IF96003, IF96005 and IF96006 (others on request).

### IF96002 RS232 Communication Module



- RS232-C
- 38.4kb/s max baud rate

### IF96009 LonWorks Communication Module



- LonWorks communication
- Transceiver FTT10

### IF96001 RS485 Communication Module



- MODBUS/JBUS RTU protocol
- 38.4kb/s max baud rate

### IF96013 M-BUS Communication Module



- M-Bus communication
- EN1434-3
- 9,600bit/s max baud rate

### IF96008 Single Energy Pulse Output Module



- Configurable - type, weight, duration
- 1 opto relays with potential free SPST-NO contact
- 110Vdc/ac 50mA rating

### IF96014 BACNET RS485 Module



- BACNET RS485 communication
- 'Native BACNET' module has an on board processor to handle all BACNET requests
- BACNET MS-TP protocol
- 78.8kb/s max baud rate

### IF96007 PROFIBUS Communication Module



- EN50170
- 3Mb/s max baud rate

### IF96003 Dual Energy Pulse Output Module



- Configurable - type, weight, duration
- 2 opto relays with potential free SPST-NO contact
- 110Vdc/ac 50mA rating

# Nemo IF Series

## Modules for Nemo 96 HD Series Multifunction Power Monitors - *continued*

### IF96004 Dual Analogue Pulse Output Module



- 2 analogue outputs 0...20mA/4...20mA
- Accuracy Class 0.5
- Load  $\leq$ 750 ohms

### IF96012 RS485 & Memory Module



- Memory and RS485 communications
- > 2 Megabyte data storage
- Real time clock with data facility
- Configurable sliding window memory with choice of four menus of recorded data (see table 1)
- Up to 5,760 hours of data recorded depending on menu selection and sampling time selected (see table 2)
- RS485 communication output
- JBUS/MODBUS
- 38.4kb/s max baud rate

**Table 1 (IF96012)**

Group 1 - Measure	Saved data			
	0	1	2	3
Phase voltage	•	•	•	•
Linked voltage	•	•	•	•
Phase active and reactive power	•	•	•	•
Phase current and voltage harmonic distortion	•	•	•	•
Neutral and phase current	•	•	•	•
Apparent - reactive - active 3-phase power	•	•	•	•
3-phase power factor	•	•	•	•
Phase power factor	•	•	•	•
State of alarms	•	•	•	•
Frequency	•	•	•	•
Group 2 - Average Power - Energy	0	1	2	3
Negative and positive active energy	•	•	•	•
Negative and positive reactive energy	•	•	•	•
Average power and peak average power	•	•	•	•

**Table 2 (IF96012)**

Menu	Update time							
	2s	5s	10s	30s	60s	2min	5min	10min
0	15h	40h	80h	240h	480h	960h	2400h	4800h
1	15h	40h	80h	240h	480h	960h	2400h	4800h
2	25h	60h	120h	360h	720h	1440h	2880h	5760h
3	25h	60h	120h	360h	720h	1440h	2880h	5760h

### IF96010 I/O & Alarm Pulse Counting Module



- Digital I/O and alarm pulse counting module
- 2 x potential free SPST-NO contact pulse inputs
- 2 x 8 digit counting registers for display and transmission (resettable) - typical application, gas or water meter contact input
- Display state of input contact, open or closed
- 2 alarm output contacts for alarm or process control
- Min and max
- Normally energised or de-energised
- Hysteresis 0...20%
- Operating delay 0...99s
- Reset delay 0...99s
- Contact rating 5A 250Vac Cos $\phi$  1, 3A 250Vac Cos  $\phi$  0.4, 5A 30Vdc

### IF96005 Dual Alarm Module



- 2 independently configurable insulated alarms
- Min or max, normally energised or de-energised
- Hysteresis 0...20%
- Operating delay 0...99s
- Reset delay 0...99s
- 2 potential free SPST contact relays
- 5A 250Vac Cos $\phi$  1, 3A 250Vac Cos $\phi$  0.4, 5A 30Vdc

### IF96011 I/O & Alarm Pulse Counting Module



- Digital I/O and alarm pulse counting module
- 2 x 0...12/24Vdc voltage level pulse inputs
- 2 x 8 digit counting registers for display and transmission (resettable) - typical application, gas or water meter contact input
- Display state of voltage level
- 2 alarm output contacts for alarm or process control
- Min and max
- Normally energised or de-energised
- Hysteresis 0...20%
- Operating delay 0...99s
- Reset delay 0...99s
- Contact rating 5A 250Vac Cos $\phi$  1, 3A 250Vac Cos  $\phi$  0.4, 5A 30Vdc

### IF96006 Neutral Current Module



- Actual measured value
- Input via external current transformer mounted on neutral. 1A or 5A secondary
- Programmable CT ratio 1...9999

### How to Order / Model Reference

eg IF96 004

Model	IF96				
Plug in type					
RS485 communications					001
RS232 communications					002
Dual pulse output					003
Dual analogue output					004
Dual alarm output					005
Neutral current input					006
Profibus communications					007
Single pulse output					008
LonWorks communications					009
Dual digital I/O and dual alarm output					010
Dual digital I/O with status and dual alarm output					011
Memory and RS485 communications					012
M-Bus communication					013
Bacnet MS-TP protocol					014