Nemo 96HD/HD+ LONWORKS

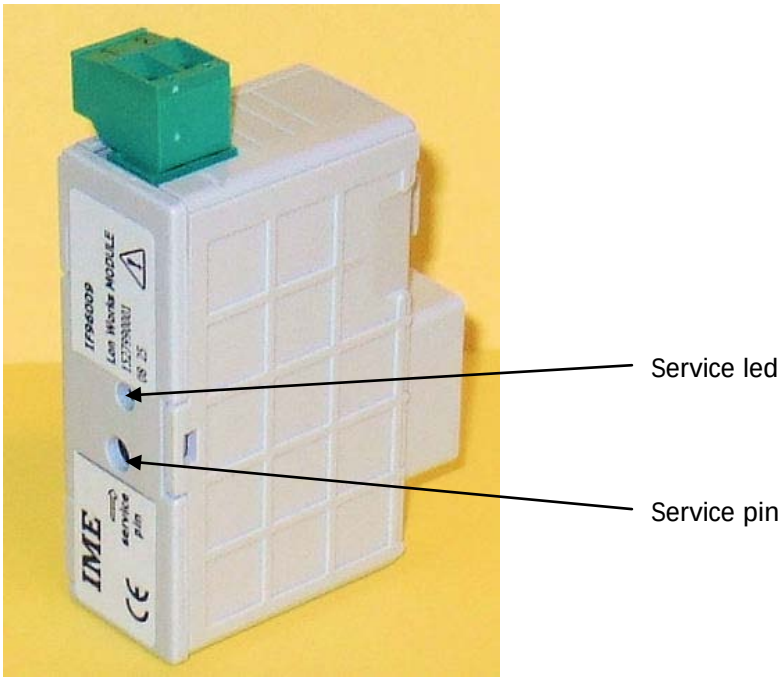
Abstract

The MF96, in order to work in a LONWORKS net, must be equipped with the IF96009 module.
The physical LONWORKS interface available is the FTT10. No other media is supported.
On the backside of the module the service led and the service pin are located.

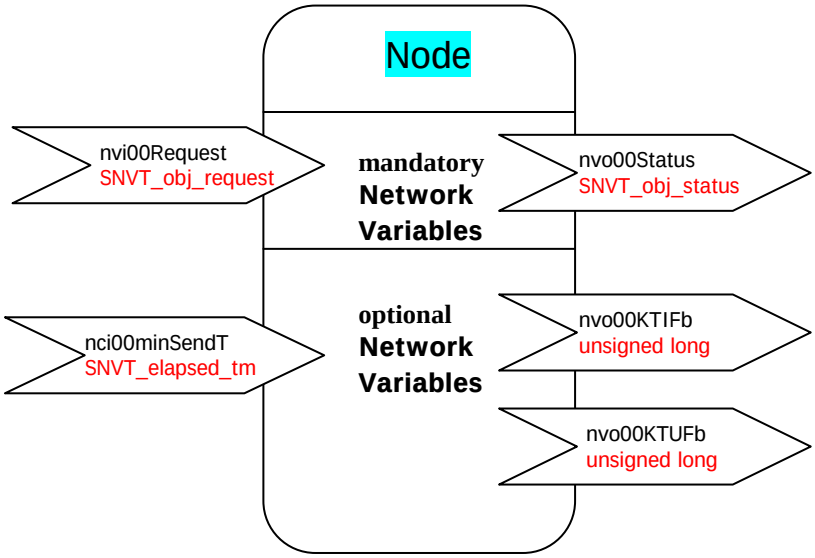
Interoperability

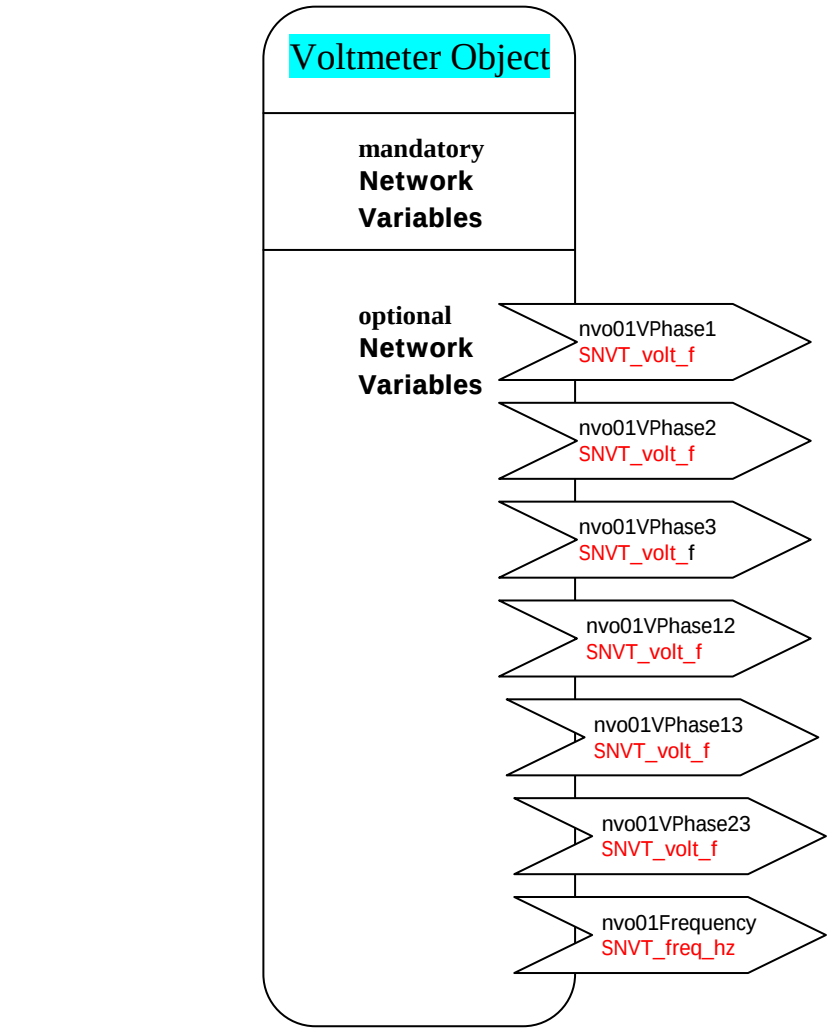
The MF96 is interoperable with all other devices in open LONWORKS networks.
It communicates within the LonWorks network at a rate of 78 kB via an FTT-10A Free Topology Transceiver which provides galvanic isolation. The bus wiring is insensitive to polarity.
Devices equipped with this transceiver can be wired in daisy chain, star, loop or any combination thereof as long as the maximum wire length requirements are met. The recommended configuration is a daisy chain with two termination modules which allows for maximum bus length and has the highest communication reliability in particularly when adding on to an existing bus.
For more information refer to http:\\www.echelon.com

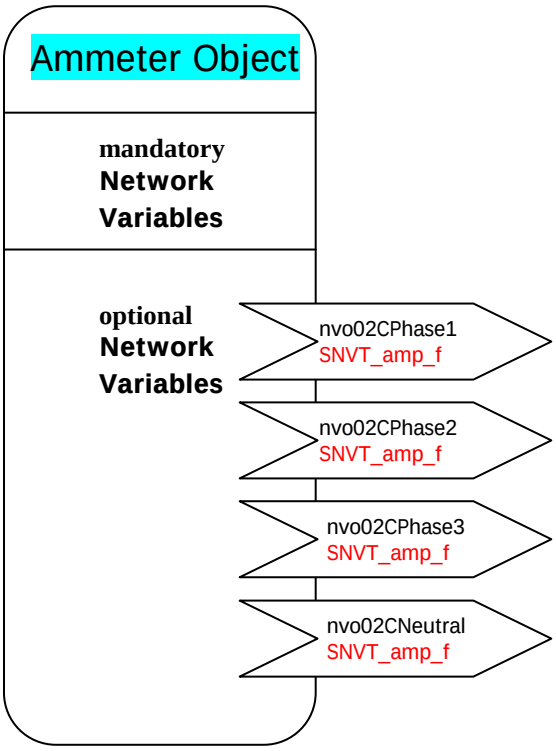
Configuration of MF96 and binding may be done using any LNS tool (e.g. Lonmaker for Windows TM)

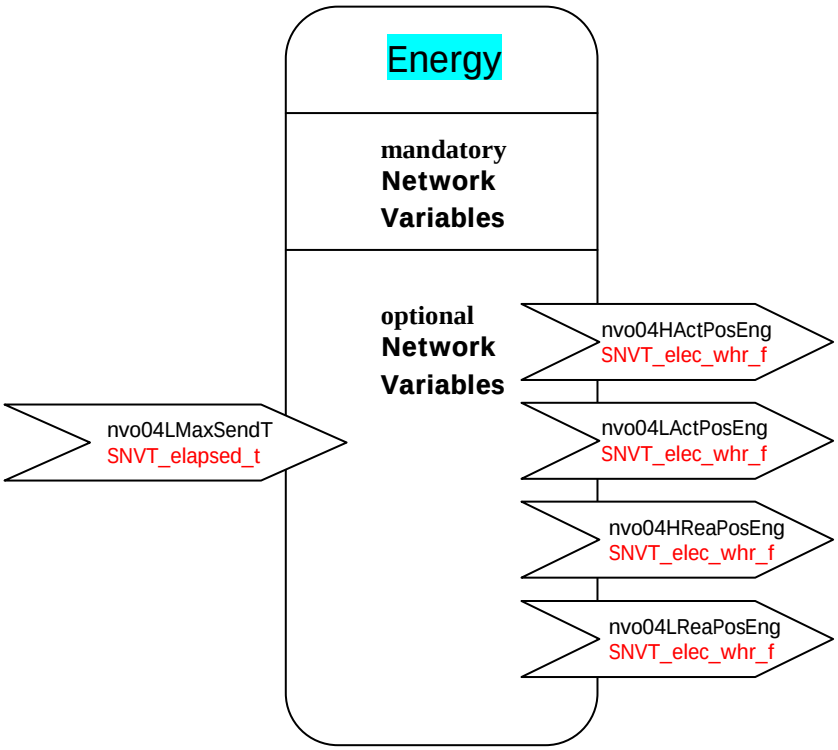


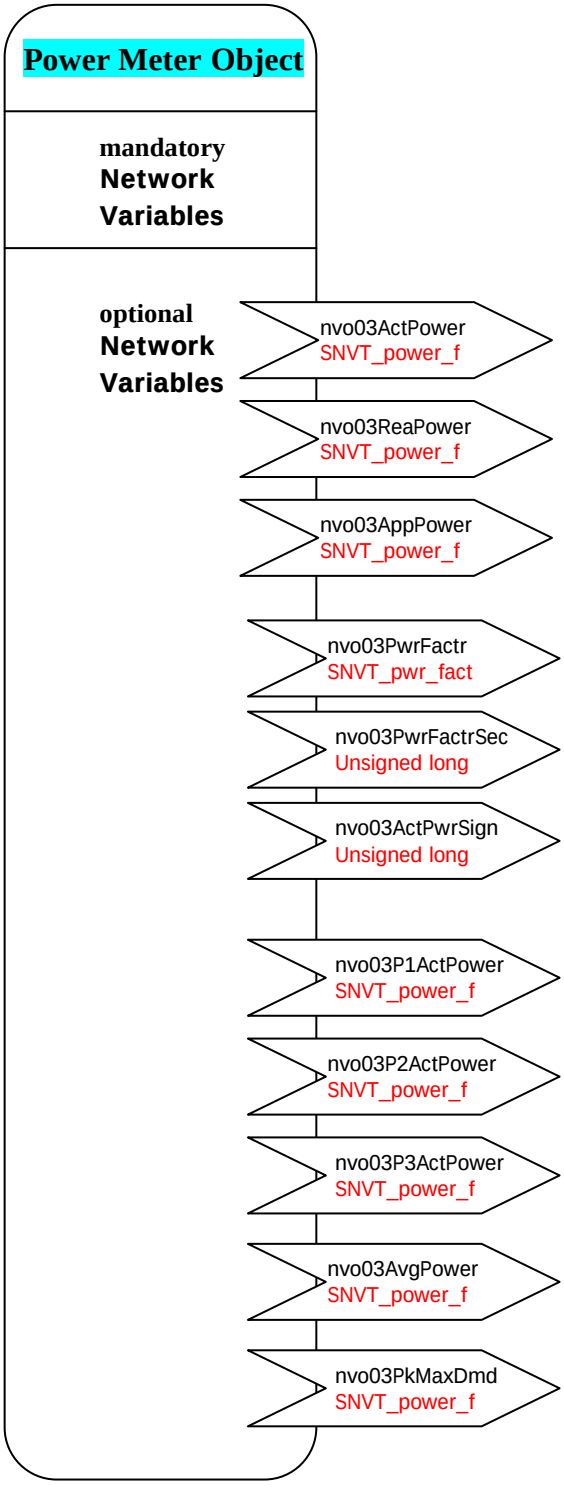
The service pin must be pressed during commissioning when required by the LNS tool.
The service led, after programming, must be off. At start-up time, only a pulse for a short while must be visible.

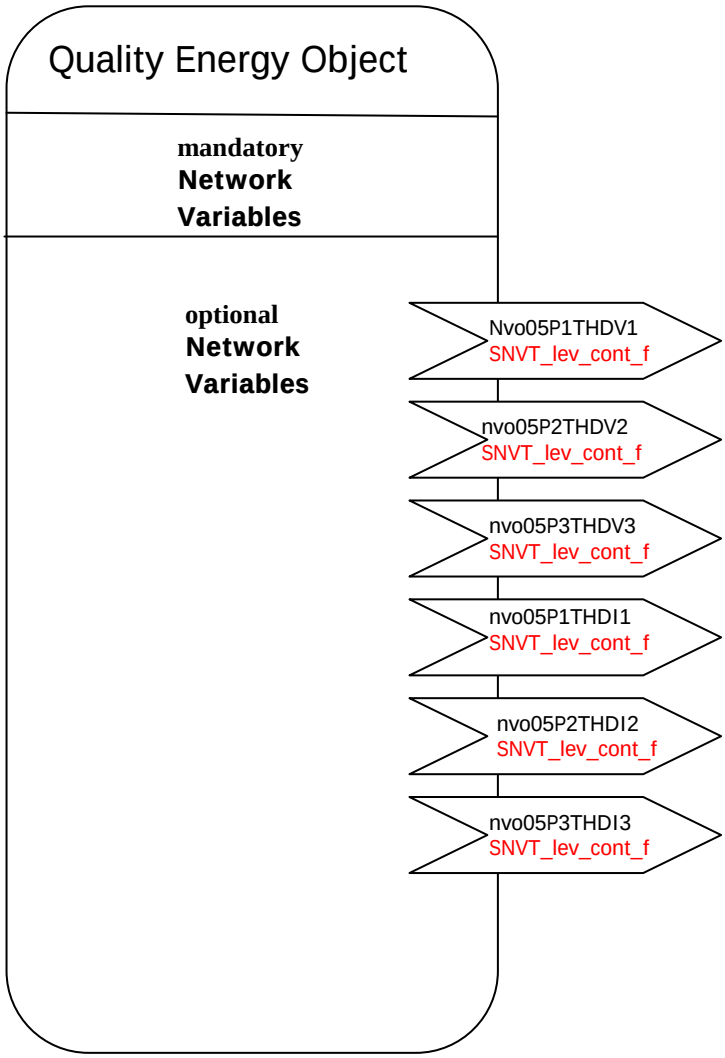

Node
nvi00Request
SNVT_obj_request
mandatory
Network
Variables
nvo00Status
SNVT_obj_status
nci00minSendT
SNVT_elapsed_tm
optional
Network
Variables
nvo00KTIFb
unsigned long
nvo00KTUFb
unsigned long


Voltmeter Object
mandatory
Network
Variables
optional
Network
Variables
nvo01VPhase1
SNVT_volt_f
nvo01VPhase2
SNVT_volt_f
nvo01VPhase3
SNVT_volt_f
nvo01VPhase12
SNVT_volt_f
nvo01VPhase13
SNVT_volt_f
nvo01VPhase23
SNVT_volt_f
nvo01Frequency
SNVT_freq_hz


Ammeter Object
mandatory
Network
Variables
optional
Network
Variables
nvo02CPhase1
SNVT_amp_f
nvo02CPhase2
SNVT_amp_f
nvo02CPhase3
SNVT_amp_f
nvo02CNeutral
SNVT_amp_f


Energy
mandatory
Network
Variables
optional
Network
Variables
nvo04LMaxSendT
SNVT_elapsed_t
nvo04HActPosEng
SNVT_elec_whr_f
nvo04LActPosEng
SNVT_elec_whr_f
nvo04HReaPosEng
SNVT_elec_whr_f
nvo04LReaPosEng
SNVT_elec_whr_f


Power Meter Object
mandatory
Network
Variables
optional
Network
Variables
nvo03ActPower
SNVT_power_f
nvo03ReaPower
SNVT_power_f
nvo03AppPower
SNVT_power_f
nvo03PwrFactr
SNVT_pwr_fact
nvo03PwrFactrSec
Unsigned long
nvo03ActPwrSign
Unsigned long
nvo03P1ActPower
SNVT_power_f
nvo03P2ActPower
SNVT_power_f
nvo03P3ActPower
SNVT_power_f
nvo03AvgPower
SNVT_power_f
nvo03PkMaxDmd
SNVT_power_f


Quality Energy Object
mandatory
Network
Variables
optional
Network
Variables
Nvo05P1THDV1
SNVT_lev_cont_f
nvo05P2THDV2
SNVT_lev_cont_f
nvo05P3THDV3
SNVT_lev_cont_f
nvo05P1THDI1
SNVT_lev_cont_f
nvo05P2THDI2
SNVT_lev_cont_f
nvo05P3THDI3
SNVT_lev_cont_f

Program ID: 90:00:00:14:00:04:04:03

NETWORK VARIABLES

ID	Variable name	Variable type	Description	Engineering unit and max resolution
			OBJECT 0	
1	nvi00Request	SNVT_obj_request	Object Request	
2	nvo00Status	SNVT_obj_status	Object Status	
3	nci00minSendT	SNVT_elapsed_tm	Min send time between two consecutive transmissions due to variation of any variable	0.0.0.0.0 (d.h.m.s.ms) d = 0 always h < 17
4	nvo00KTIFb	unsigned long	KTI: Current T. ratio	primary / secondary
5	nvo00KTUFb	unsigned long	KTU: Voltage T. ratio	primary / secondary multiplied by 10
6	nvo00KTI	unsigned long	KTI: C.T. ratio	Not active
7	nvo00KTU	unsigned long	KTU: V.T. ratio	Not active
8	nvo00ImpFactorFb	unsigned long	Not active	Not active
9	nvi00ImpFactor	unsigned long	Not active	Not active
			VOLTMETER OBJECT	
1	nvo01VPhase1	SNVT_volt_f	Phase 1 voltage	volt.d
2	nvo01VPhase2	SNVT_volt_f	Phase 2 voltage	volt.d
3	nvo01VPhase3	SNVT_volt_f	Phase 3 voltage	volt.d
4	nvo01VPhase12	SNVT_volt_f	Phase 12 voltage	volt.d
5	nvo01VPhase23	SNVT_volt_f	Phase 23 voltage	volt.d
6	nvo01VPhase13	SNVT_volt_f	Phase 13 voltage	volt.d
7	nvo01Frequency	SNVT_freq_hz	Frequency	Hz.d
			AMMETER OBJECT	
1	nvo02CPhase1	SNVT_amp_f	Phase 1 current	A.ddd
2	nvo02CPhase2	SNVT_amp_f	Phase 2 current	A.ddd
3	nvo02CPhase3	SNVT_amp_f	Phase 3 current	A.ddd
4	nvo02CNeutral	SNVT_amp_f	Neutral current	A.ddd
			POWER METER OBJECT	
1	nvo03ActPower	SNVT_power_f	Active power	W
2	nvo03ReaPower	SNVT_power_f	Reactive power	var
3	nvo03AppPower	SNVT_power_f	Apparent power	VA
4	nvo03PwrFactr	SNVT_pwr_fact	Power factor	0.dd or 1.00
5	nvo03PwrFactrSec	Unsigned long	Power Factor Sector	0 or 1 or 2
6	nvo03ActPowerSign	Unsigned long	Active Power Sign	0 or 1
7	nvo03P1ActPower	SNVT_power_f	Phase 1 Active Power	W
8	nvo03P2ActPower	SNVT_power_f	Phase 2 Active Power	W
9	nvo03P3ActPower	SNVT_power_f	Phase 3 Active Power	W
10	nvo03AvgPower	SNVT_power_f	Average power	W / var / VA
11	nvo03PkMaxDmd	SNVT_power_f	Peak Maximum Demand	W / var / VA
			ENERGY METER OBJECT	
1	nvo04HActPosEng	SNVT_elec_whr_f	Active Energy - High	MWh
2	nvo04LActPosEng	SNVT_elec_whr_f	Active Energy – Low	Wh
3	nvo04HReaPosEng	SNVT_elec_whr_f	Reactive Energy - High	Mvarh
4	nvo04LReaPosEng	SNVT_elec_whr_f	Reactive Energy - Low	varh
5	nvo04LMaxSendT	SNVT_elapsed_t	Max. transmission time of the energy values	0.0.0.0.0 (d.h.m.s.ms) d = 0 always h < 17
			ENERGY QUALITY OBJECT	
1	nvo05P1THDV1	SNVT_lev_cont_f	THD V1	% (integer decimal)
2	nvo05P2THDV2	SNVT_lev_cont_f	THD V2	% (integer decimal)
3	nvo05P3THDV3	SNVT_lev_cont_f	THD V3	% (integer decimal)
4	nvo05P1THDI1	SNVT_lev_cont_f	THD I1	% (integer decimal)
5	nvo05P2THDI2	SNVT_lev_cont_f	THD I2	% (integer decimal)
6	nvo05P3THDI3	SNVT_lev_cont_f	THD I3	% (integer decimal)