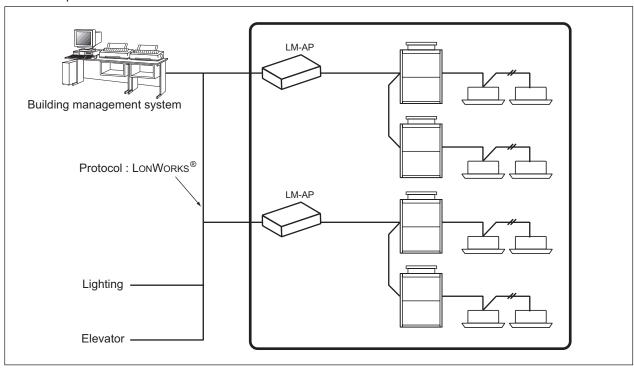
3-7. LONWORKS[®] interface [LMAP04-E]

CITY MULTI can easily combine into a Building Management System (BMS) via the LonWorks® and M-NET adapter LMAP04-E. LonWorks® is an opened transmission protocol widely used at BMS, and related equipment control. CITY MULTI is therefore compatible with large-scaled BMS management via LonWorks $^{\!@}\!.$



One LMAP04-E serves up to 50 indoor units. (CITY MULTI, Mr.Slim, and Lossnay)

■ System example



Communication items at LonWorks® and M-NET Adapter LMAP04-E

Se Fa Pr Pr Co Fr Fi Ti Lii	Mode Set point from network (Set temp.) Fan speed Prohibit local On/Off Prohibit local Mode Prohibit local Set temp. Collective Local Prohibit Forced Thermostat OFF Filter Sign Reset Time Stamp Limit Temperature Setting Range (*2) Simplified Locking (*2)		Collective On/Off Mode Set point from network (Set temp.) Fan speed Prohibit local On/Off Prohibit local Mode Prohibit local Set temp. Collective Local Prohibit Forced Thermostat OFF Run Time for Filter
Operation Se Se Se	Set point from network (cool) Set point from network (heat) Set point from network (auto)	State Monitoring	Indoor temperature Defrost Group Number Alarm signal Collective Alarm for Indoor Unit Collective Alarm for LM ADAPTER Error Code Error Address Thermo On/Off state_1 (*1) Thermo On/Off state_2 (*1) Model Code (*1) Set point from network (cool) Set point from network (auto)

Note
*1: This product does not have a charge function.

The charge (apportioning) function must be prepared separately in the master system.

^{*2:} This function is not available when PAR-U02MEDA is connected to the system.

■ Environment specification

Item		Description				
Connected Equipment		MITSUBISHI ELECTRIC Multiple split-type air conditioners Split-type air conditioners Split-type air conditioners Heat recovery ventilators Lossnay (*For details of the connectable models, please contact the				
Number of Units		LM-AP can control 50 indoor units (including Lossnay)				
Neuron CHIP		TMPN3150/FT3150-P20 (10MHz)				
Network Transceiver		FTT-10A/FT-X1 (Free Topology 78kbps)				
Performance	Average communication capacity	2.5 inputs/second				
	Peak communication capacity	50 inputs/second (for one second)				

^{*} The proper communication is not obtainable when communication intervals exceed its performance, assure sufficient intervals.

<LMAP04-E Network Variables>

Please obtain the Network Variables Specification for details from your dealer.

	(I	ndoor[1]-[50]			
	Ne	etwork Variables			
nv1n	nviOnOff_n SNVT_switch	>	nv2n	nvoOnOff_n SNVT_ switch	\rightarrow
nv3n	nviMode_n SNVT_hvac_mode		nv4n	nvoMode_n SNVT_hvac_mode	>
(*8) nv5n	nviSetP_n SNVT_temp_p	>	nv6n	nvoSetP_n SNVT_temp_p	(*8)
(*9)nv7n	nviCoolSetP_n SNVT_temp_p	>	nv8n	nvoCoolSetP_n SNVT_temp_p	(*9)
(*9)nv9n	nviHeatSetP_n SNVT_temp_p	>	nv10n	nvoHeatSetP_n SNVT_temp_p	(*9)
(*9, 10, 11) nv11n	nviAutoSetP_n SNVT_temp_p		nv12n	nvoAutoSetP_n SNVT_temp_p	(*9, 10, 11)
nv19n	nviFanSpeed_n SNVT_switch	\rightarrow	nv20n	nvoFanSpeed_n SNVT_switch	>
(*2, 3, 4) nv21n	nviProOnOff_n SNVT_switch	>	nv22n	nvoProOnOff_n SNVT_switch	(*2, 3, 4)
(*2, 3, 4) nv23n	nviProMode_n SNVT_switch	\rightarrow	nv24n	nvoProMode_n SNVT_switch	(*2, 3, 4)
(*2, 3, 4) nv25n	nviProSetP_n SNVT_switch	\rightarrow	nv26n	nvoProSetP_n SNVT_switch	(*2, 3, 4)
(*5)nv27n	nviThermoOff_n SNVT_switch		nv28n	nvoThermoOff_n SNVT_switch	(*5)
(*6) nv29n	nviFiltReset_n SNVT_switch	\rightarrow	nv30n	nvoOnTime_n SNVT_time_hour	(*6)
ows M-NET			nv31n	nvoSpaceTemp_n SNVT_temp_p	\rightarrow
y the system ers units.			nv32n	nvoAlarm_n SNVT_switch	\rightarrow
MA or ME" remote controller. Irn ON the switch (SW1-1) on			nv33n	nvoErrCode_n SNVT_count	\rightarrow
ng "OFF") Irn ON the switch (SW1-8) on ng "OFF")			nv34n	nvoErrAdrs_n SNVT_count	\rightarrow
irn ON the switch (SW1-4) on ng "OFF")			nv35n	nvoThermoSt_n SNVT_state	\rightarrow
system controller. for the conventional indoor dual setpoint.			nv36n	nvoThermo_n SNVT_switch	\rightarrow
for the units which support				nvoIcMdlSize_n SNVT_count	\rightarrow
he DOAS was manufactured en it uses for the DOAS. n the auto mode should be				nvoGroupNo_n SNVT_count	(*7)
like the conventional one.	(/		

Notes

- *1: "n" of the network variable shows M-NET address of indoor units.
- *2: It may be unable to be used by the system configuration of air-conditioners units.
- *3: It is possible to use with an "MA or ME" remote controller
- *4: For the use of this function, turn ON the switch (SW1-1) or LM ADAPTER. (Factory setting "OFF")
- *5: For the use of this function, turn ON the switch (SW1-8) or LM ADAPTER. (Factory setting "OFF")
- *6: For the use of this function, turn ON the switch (SW1-4) on LM ADAPTER. (Factory setting "OFF")
- *7: It is possible to use with other system controller.
- *8: This function is available only for the conventional indoc units which don't support the dual setpoint.
- *9: These functions are available for the units which support the dual setpoint.
- *10: This function is available for the DOAS was manufactured in October, 2012 or later, when it uses for the DOAS.
- *11: This function is available when the auto mode should be controlled by single set point like the conventional one, even when the dual set point is valid.

^{*} Detailed specifications for the LonWorks® network can be found in "FTT-10A Free Topology Transceiver User's Guide" or " FT3120/FT3150 Smart Transceiver Data Book" by Echelon Corporation.

