

BACnet Integration Guidelines



CoolMasterNet
CooLinkNet
CooLinkHub
CooLinkBridge

BACnet Integration Guidelines



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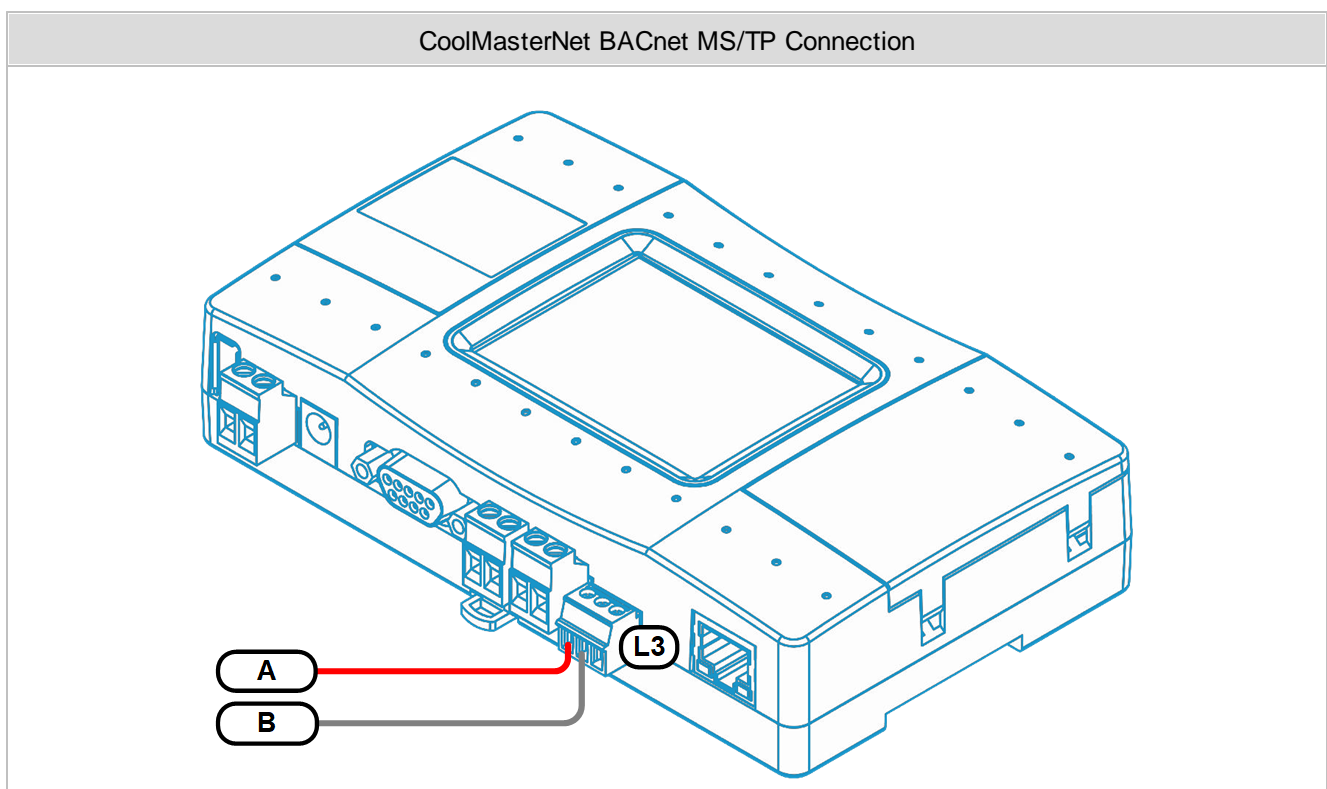
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1 Connection

CoolAutomation devices support BACnet MS/TP and/or BACnet IP protocols with accordance to the ANSI/ASHRAE Standard 135-2004.

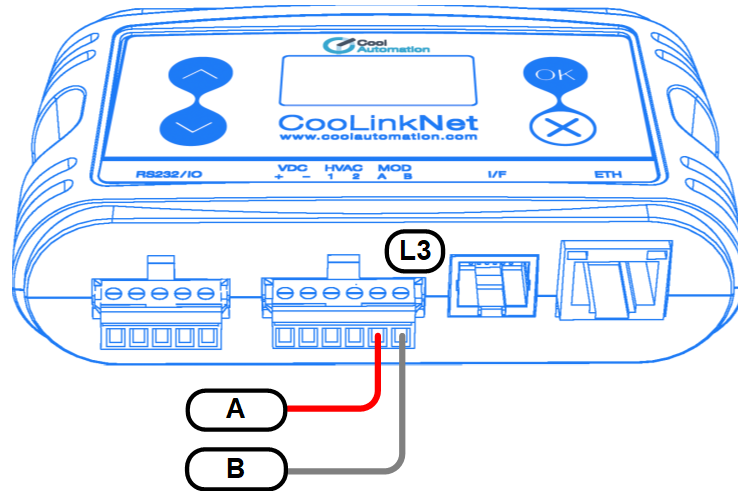
1.1 BACnet MS/TP Connection

In BACnet MS/TP mode physical connection to the CoolAutomation devices is implemented over “Two-Wire” electrical interface in accordance to EIA/TIA-485 standard. Connection is made via 485-A and 485-B terminals. Ground wire connection is not mandatory but highly recommended.



In CoolMasterNet Line L3 is recommended for BACnet MS/TP connection, although Lines L4, L5, L6 and L7 can also be used for that purpose. Picture above shows connection to Line L3.

CooLinkNet/CooLinkHub/CooLinkBridge BACnet MS/TP Connection



In CooLinkNet/CooLinkHub/CooLinkBridge devices **only** Line L3 can be used for BACnet MS/TP connection.

1.2 BACnet IP Connection

BACnet IP is supported in CoolMasterNet and CooLinkNet/CooLinkHub/CooLinkBridge devices. Devices are communicating on the Ethernet TCP/IP network using UDP protocol. Physical connection in this case is made via RJ45 Ethernet connector.

2 Configuration

CoolAutomation device must be configured to support BACnet functionality. Configuration is made via CoolAutomation's proprietary ASCII_IF interface described in details in [Programmer Reference Manual \(PRM\)](#) document for the corresponding device.

One BACnet MS/TP and one BACnet IP connection can run simultaneously on CoolAutomation device. Additional MS/TP connections are not supported although physical interfaces may be available.

2.1 BACnet MS/TP Configuration

BACnet MS/TP interface module of CoolAutomation device has to be activated by assigning appropriate communication Line. In CoolMasterNet it is highly recommended to use Line L3, although it is possible to use any of the flowing lines: L4, L5, L6, L7 lines. Using line L3 in CoolLinkNet/CoolLinkHub/CoolLinkBridge for BACnet MS/TP is mandatory.

CoolMasterNet BACnet MS/TP activation:

```
>line type L3 BAC
OK, Boot Required!
```

CoolLinkNet/CoolLinkHub/CoolLinkBridge BACnet MS/TP activation:

```
>line type L3 BAC
OK, Boot Required!
```

Use `line` command to check if BACnet MS/TP module is already activated and to display it 's parameters.

CoolMasterNet:

```
>line
L1: DK Master U00/G00 myid:0B
Tx:2/2 Rx:2/2 TO:0/0 CS:0/0 Col:0/0 NAK:0/0
L2: Unused
Tx:0/0 Rx:0/0 TO:0/0 CS:0/0 Col:0/0 NAK:0/0
L3: BACnet TS:0x40(64) DEV_INST:0x000040(64) 9600_8N1
Tx:0/0 Rx:0/0 TO:0/0 CS:0/0 Col:0/0 NAK:0/0
L4: Unused
Tx:0/0 Rx:0/0 TO:0/0 CS:0/0 Col:0/0 NAK:0/0
L5: Unused
Tx:0/0 Rx:0/0 TO:0/0 CS:0/0 Col:0/0 NAK:0/0
L6: Unused
Tx:0/0 Rx:0/0 TO:0/0 CS:0/0 Col:0/0 NAK:0/0
L7: Unused
Tx:0/0 Rx:0/0 TO:0/0 CS:0/0 Col:0/0 NAK:0/0
L8: Unused
Tx:0/0 Rx:0/0 TO:0/0 CS:0/0 Col:0/0 NAK:0/0
OK
```

CoolLinkNet/CoolLinkHub/CoolLinkBridge:

```
>line
L1: Unused
Tx:0/0 Rx:0/0 TO:0/0 CS:0/0 Col:0/0 NAK:0/0
L2: Unused
Tx:0/0 Rx:0/0 TO:0/0 CS:0/0 Col:0/0 NAK:0/0
L3: BACnet TS:0x40(64) DEV_ID_INST:0x000040(64) 9600_8N1
Tx:0/0 Rx:0/0 TO:0/0 CS:0/0 Col:0/0 NAK:0/0
L4: M1M2 Slave U00/G00 Not Connected
```

```
Tx:0/0 Rx:0/0 TO:0/0 CS:0/0 Col:0/0 NAK:0/0
L5: Unused
Tx:0/0 Rx:0/0 TO:0/0 CS:0/0 Col:0/0 NAK:0/0
OK
```

Next: VA's have to be configured to use BACnet MS/TP module. See: [VA's Configuration](#).

2.1.1 BACnet MS/TP MAC Address

On MS/TP networks, MAC address or TS (This Station) address is the eight bit address used to identify devices on a single RS-485 subnet. TS can be configured with `line myid` command (in this example TS will be set to 0x41 or 65 decimal):

```
>line myid L3 41
OK, Boot Required!
```

TS can be queried with `bacnet` or `line` command.

2.1.2 BACnet MS/TP Frame Format

The default BACnet MS/TP frame format in CoolAutomation devices is 9600_8N1:

Baud Rate	9600 bps
Data Bits	8
Parity	None
Stop Bits	1

Frame format parameters are configurable with `line baud` command:

```
>line baud L3 19200_8N2
OK, Boot Required!
```

In above example frame format will become 19200 bps, 8 data bits, no parity, 2 stop bits.

2.2 BACnet IP Configuration

BACnet IP module is activated with below command:

```
>bacnet IP enable
OK, Boot Required!
```

BACnet IP server is started by device only after it establishes an Ethernet link and gets proper IP address (dynamic via DHCP or static). Ethernet and IP management is done with `ifconfig` command that is out of the spec of this document.

To query BACnet IP status use `bacnet` command without parameters:

```
>bacnet
Dev instance   : 64 (0x000040)
BACnet IP     : enabled
UDP port      : 47808 (0xBAC0)
BACnet MSTP   : L3
TS address    : 64 (0x40)
OK
```

The default UDP port number used by BACnet IP Server is 47808 (0xBAC0). This is "well-known" Ethernet port assigned for the BACnet IP protocol. If required port number can be changed (new port number in example below will be 503):



```
>bacnet port 503
OK, Boot Required!
```

Next: VA's have to be configured to use BACnet IP Server. See: [VA's Configuration](#).

2.3 VA's Configuration

VA's -Virtual Addresses are used by CoolAutomation devices in order to simplify translation of the Indoor Unit number - UID into Instance Number of the BACnet Object Identifier.

UID is a string in format **Ln.XYY**. For Example:

L1.102 - Indoor Unit 102 on line L1

L2.003 - Indoor Unit 003 on line L2

List of UID's detected (visible) by CoolAutomation device can be retrieved with **ls** command.

```
>ls
L1.100 ON 19C 30C High Fan OK # 0
L1.101 OFF 28C 23C High Cool OK - 0
```

Each UID can have none, one or a number of associated VA's. VA's are plain numbers starting from 1. Device can automatically allocate and associate VA's with existing (visible by **ls** command) UID's:

```
>va auto
OK
```

To query allocated VA's use **va** command without parameters:

```
>va
INDOORS
L1.100 --> 0001 [Hex: 0x0011 | Dec: 00017]
L1.101 --> 0002 [Hex: 0x0021 | Dec: 00033]
OK
```

In example above UID L1.100 has a VA=0001 and UID L1.101 has a VA=0002. Numbers in '[' ']' braces are not applicable for BACnet modules (they are used for Modbus modules).

VA's can be allocated or deallocated (deleted) all together or separately. As shown above for automatic VA's allocation **va auto** command is used. It is possible to allocate VA for specific UID. For example, allocate VA 0004 for UID L1.102:

```
>va + L1.102 0004
OK
```

In this case UID does not have to be detected (visible) by CoolAutomation device at the VA allocation time. It is allowed to allocate a number of VA's for any given UID.

To delete all allocated VA's:

```
>va delall
OK
```

Specific VA can also be deleted (below command will delete VA 0004):

```
>va - 0004
OK
```

Alternatively all VA's associated with specific UID can be deleted (below command will delete all VA's associated with UID L1.102):



```
>va - L1.102
```

```
OK
```

Once VA's are allocated BACnet MS/TP and/or BACnet IP can be used to access Indoor Unit parameters. Translation of the VA into Instance Number of the BACnet Object Identifier is made according to the scheme below:

Object Identifier bits																															
31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Type										Instance Number																				Index	
										VA																					



3 BACnet Tables

Supported Object Types

Object Type	Abbreviation	Read/Write	Encoding
Binary Value	BV	R/W	5
Binary Input	BI	RO	3
Analog Value	AV	R/W	2
Analog Input	AI	RO	0
Multi State Value	MV	R/W	19
Character String Value	CSV	RO	40
Integer Value	IV	RO	45
Positive Integer Value	PIV	R/W	48

3.1 Indoor Unit Objects

Object Identifier bits					Object Description			
Type		Instance						
		VA	Index					
		31	22	21	8	7	0	
AI						00		Room Temperature
AV						00		Set Temperature
BI						00		HVAC Failure Indication. Present Value = 0 - No Failure Present Value = 1 - Failure. "Active Text" property contains failure code
BI						01		Demand State (Therm_ON)
BI						02		External Terminals Status
BV						00		ON/OFF
BV						01		Filter Sign
BV						02		Lock (prohibit) ON/OFF change from WRC
BV						03		Lock (prohibit) Operation Mode change from WRC
BV						04		Lock (prohibit) Set Temperature change from WRC
BV						05		Global Lock (prohibit)
MV						00		Fan Speed: 1 - Low 2 - Medium 3 - High 4 - Auto 5 - Top 6 - Very Low 7 - Super High 8 - HRV Super High 9 - HRV Low FreshUp 10 - HRV High FreshUP
MV						01		Operation Mode: 1 - Cool 2 - Heat 3 - Auto 4 - Dry 5 - HAUX 6 - Fan 7 - Heat+HAUX 9 - HRV Auto 10 - HRV Bypass 11 - HRV Heat Exchange 12 - HRV Normal
MV						02		Louver 1 - Vertical 2 - 30 deg 3 - 45 deg 4 - 60 deg 5 - Horizontal 6 - Auto (Sw ing) 7 - Off 8 - No Louver Control
PIV						00		Set Temperature low limit
PIV						01		Set Temperature high limit

3.2 PRO Functionality

3.2.1 DK

3.2.1.1 DK PRO Outdoor Systems

• VRV4S1, VRV4S2, mini-VRV, VRV-3S, VRV-M, VRV-3P

Object Identifier bits					Short Name	Object Description	
31	22	21	8	7			0
Type	Instance						
	VA	Index					
CSV			00	Type	Outdoor System Type Name		
PIV			01	AirNet	AirNet Addr.		
PIV			02	SysHP	System HP [hp]		
AI			03	SysCur	System Current x0.1 [A]		
AI			04	TrgtEvT	Target Evaporation T x 0.1 [°C]		
PIV			05	TrgtCndT	Target Condensing T [°C]		
CSV			06	ErrCode	Error code		
BI			07	Cool	Cooling		
BI			08	Heat	Heating		
BI			09	Vent	Ventilation		
BI			10	TstatOn	Thermostat ON		
BI			11	ResrtStby	Restart stand-by		
BI			12	BkpOp	Backup ope.		
PIV			13	DmndState	Demand state		

• VRV4S3, VRVX, VRV4-EU

Object Identifier bits					Short Name	Object Description	
31	22	21	8	7			0
Type	Instance						
	VA	Index					
CSV			00	Type	Outdoor System Type Name		
PIV			01	AirNet	AirNet Addr.		
PIV			02	SysHP	System HP [hp]		
AI			03	SysCur	System Current x0.1 [A]		
AI			04	TrgtEvT	Target Evaporation T x 0.1 [°C]		
PIV			05	TrgtCndT	Target Condensing T [°C]		
CSV			06	ErrCode	Error code		
BI			07	Cool	Cooling		
BI			08	Heat	Heating		
BI			09	Vent	Ventilation		
BI			10	TstatOn	Thermostat ON		
BI			11	ResrtStby	Restart stand-by		
BI			12	Dfrst	Defrost		
BI			13	StrtupCtl	Startup control		
BI			14	BkpOp	Backup ope.		
BI			15	OiRtrn	Oil return		



Object Identifier bits					Short Name	Object Description	
31	22	21	8	7			0
Type	Instance						
	VA	Index					
PIV					16	DmndState Demand state	
PIV					17	OpCtlMod Operation control mode	
AI					18	TstatOnCap I/U thermostat ON capacity	

• VRV-M(REYQ8-48M)

Object Identifier bits					Short Name	Object Description	
31	22	21	8	7			0
Type	Instance						
	VA	Index					
CSV					00	Type Outdoor System Type Name	
PIV					01	AirNet AirNet Addr.	
PIV					02	SysHP System HP [hp]	
AI					03	SysCur System Current x0.1 [A]	
AI					04	TrgtEvT Target Evaporation T x0.1 [°C]	
PIV					05	TrgtCndT Target Condensing T [°C]	
CSV					06	ErrCode Error code	
BI					07	Cool Cooling	
BI					08	Heat Heating	
BI					09	Vent Ventilation	
BI					10	TstatOn Thermostat ON	
BI					11	ResrtStby Restart stand-by	
BI					12	BkpOp Backup ope.	
BI					13	CoolHeatPrll Cool/Heat parallel ope.	
PIV					14	DmndState Demand state	

• VRV-3R, VRV3C

Object Identifier bits					Short Name	Object Description	
31	22	21	8	7			0
Type	Instance						
	VA	Index					
CSV					00	Type Outdoor System Type Name	
PIV					01	AirNet AirNet Addr.	
PIV					02	SysHP System HP [hp]	
AI					03	SysCur System Current x0.1 [A]	
AI					04	TrgtEvT Target Evaporation T x0.1 [°C]	
PIV					05	TrgtCndT Target Condensing T [°C]	
CSV					06	ErrCode Error code	
BI					07	Cool Cooling	
BI					08	Heat Heating	
BI					09	Vent Ventilation	
BI					10	TstatOn Thermostat ON	
BI					11	ResrtStby Restart stand-by	
BI					12	BkpOp Backup ope.	



Object Identifier bits					Short Name	Object Description	
31	22	21	8	7			0
Type	Instance						
	VA	Index					
BI					13	CoolHeatPrll Cool/Heat parallel ope.	
PIV					14	DmndState Demand state	

• VRV-4R

Object Identifier bits					Short Name	Object Description	
31	22	21	8	7			0
Type	Instance						
	VA	Index					
CSV					00	Type Outdoor System Type Name	
PIV					01	AirNet AirNet Addr.	
PIV					02	SysHP System HP [hp]	
AI					03	SysCur System Current x 0.1 [A]	
AI					04	TrgtEvT Target Evaporation T x 0.1 [°C]	
PIV					05	TrgtCndT Target Condensing T [°C]	
CSV					06	ErrCode Error code	
BI					07	Cool Cooling	
BI					08	Heat Heating	
BI					09	Vent Ventilation	
BI					10	TstatOn Thermostat ON	
BI					11	ResrStby Restart stand-by	
BI					12	Dfrst Defrost	
BI					13	StrtupCtl Startup control	
BI					14	BkpOp Backup ope.	
BI					15	CoolHeatPrll Cool/Heat parallel ope.	
BI					16	OiRtrn Oil return	
PIV					17	DmndState Demand state	
PIV					18	OpCtlMod Operation control mode	
AI					19	TstatOnCap I/U thermostat ON capacity	

3.2.1.2 DK PRO Outdoor Units

• VRV4S1, VRV4S2, VRV-3S, VRV-3P

Object Identifier bits					Short Name	Object Description	
31	22	21	8	7			0
Type	Instance						
	VA	Index					
PIV					00	AirNet AirNet Addr.	
PIV					01	HP HP [hp]	
IV					02	AmbT Ambient temperature [°C]	
IV					03	SuctT Suction Temperature [°C]	
IV					04	EvT Evaporating Temperature [°C]	
IV					05	CndT Condensing Temperature [°C]	
PIV					06	InvRS Inverter Revolution Speed [rps]	



Object Identifier bits					Short Name	Object Description	
31	22	21	8	7			0
Type	Instance						
	VA	Index					
PIV		07			EVOp1	EV opening 1 [pls]	
PIV		08			EVOp2	EV opening 2 [pls]	
PIV		09			CTSTD1	CT1 (STD1) [A]	
PIV		10			CTSTD2	CT2 (STD2) [A]	
PIV		11			FanStp	Fan step	
IV		12			CilT	R4T :Coil temp. [°C]	
IV		13			ScCilExtT	Subcooling Coil exit Temp. [°C]	
PIV		14			DschTInv	Disch. temp.(INV) [°C]	
PIV		15			DschTStd1	Disch. temp.(STD1) [°C]	
PIV		16			DschTStd2	Disch. temp.(STD2) [°C]	
IV		17			AccEntrT	Accumulator Entrance Temp. [°C]	
IV		18			RcvrLiqT	Receiver Liquid Temp. [°C]	
PIV		19			InvT	Inverter temp. [°C]	
PIV		20			InvCur	Inverter current [A]	
PIV		21			InvFanCur	INV FAN current [A]	
BI		22			Comp1Inv	Compressor1(INV)	
BI		23			Comp2Std1	Compressor2(STD1)	
BI		24			Comp3Std2	Compressor3(STD2)	
BI		25			OiRtrn	Oil return	
BI		26			HotGas	Hot Gas	
BI		27			CcH1	CH1:Crankcase Heater	
BI		28			CcH2	CH2:Crankcase Heater	
BI		29			CcH3	CH3:Crankcase Heater	
BI		30			SoftStrt	Soft start	
BI		31			ResrtStby	Restart stand-by	
BI		32			MulOi	Multi oil	
BI		33			ErrState	Unit Error stat	
BI		34			EnrgyCutOutp	Energy cut output	
BI		35			HiPRtry	High pressure retry	
BI		36			LoPRtry	Low pressure retry	
BI		37			DischPipRtry	Disch. pipe retry	
BI		38			4WayVlv	4 way valve	
BI		39			Injct	Injection	
BI		40			Dfrst	Defrost	
BI		41			HiPStpDnCtl	H.P. stepping down cntl	
BI		42			LoPStpDnCtl	L.P. stepping down cntl	
BI		43			DmndStpDnCtl	Demand stepping down cntl	
BI		44			InvRtry	INV retry	
BI		45			InvDschStpDnCtl	INV Disch. stepping down cntl	
BI		46			InvOCStpDnCtl	INV OC stepping down cntl	
BI		47			InvFinStpDnCtl	INV Fin stepping down cntl	
BI		48			Std1DschStpDnCtl	STD1 Disch. stepping down cntl	
BI		49			Std1OCStpDnCtl	STD1 OC stepping down cntl	



Object Identifier bits					Short Name	Object Description	
31	22	21	8	7			0
Type		Instance					
		VA	Index				
BI		50			Std2DsSchStpDnCtl	STD2 Disch. stepping down cntl	
BI		51			Std2OCStpDnCtl	STD2 OC stepping down cntl	

• VRV4S3, VRVX, VRV4-EU

Object Identifier bits					Short Name	Object Description	
31	22	21	8	7			0
Type		Instance					
		VA	Index				
PIV			00	AirNet	AirNet Addr.		
PIV			01	HP	HP [hp]		
PIV			02	Inv1RotAmnt	INV 1 rotation amount [rps]		
PIV			03	Inv2RotAmnt	INV 2 rotation amount [rps]		
PIV			04	Fan1RotAmnt	Fan 1 rotation amount [rpm]		
PIV			05	Fan2RotAmnt	Fan 2 rotation amount [rpm]		
PIV			06	FanStp	Fan step		
PIV			07	EVOp1	EV opening 1 [pls]		
PIV			08	EVOp2	EV opening 2 [pls]		
PIV			09	EVOp3	EV opening 3 [pls]		
BI			10	CompInv1	Compressor 1(INV1)		
BI			11	CompInv2	Compressor 2(INV2)		
BI			12	CcH1	CH1:Crankcase Heater		
BI			13	CcH2	CH2:Crankcase Heater		
BI			14	4WayVlv	4 way valve		
BI			15	OiRtrn1	Oil return 1		
BI			16	AccOiRtrn	Accumulator oil return		
BI			17	OiRtrn2	Oil return 2		
BI			18	4WayVlvHeat	4 way valve(Heating)		
BI			19	ErrState	Unit Error stat		
BI			20	DrnPanHtr	Drain pan heater		
BI			21	EnrgyCutOutp	Energy cut output		
BI			22	HiPRtry	High pressure retry		
BI			23	LoPRtry	Low pressure retry		
BI			24	DischPipRtry	Disch. pipe retry		
BI			25	OHStby	Overheating stand-by		
BI			26	Inv1Stby	INV1 stand-by		
BI			27	Inv2Stby	INV2 stand-by		
BI			28	HiPStpDnCtl	H.P. stepping down cntl		
BI			29	LoPStpDnCtl	L.P. stepping down cntl		
BI			30	DmndStpDnCtl	Demand stepping down cntl		
BI			31	Comp1DsSchStpDnCtl	Comp.1 Disch. stepping down cntl		
BI			32	Comp2DsSchStpDnCtl	Comp.2 Disch. stepping down cntl		
BI			33	Comp1OCStpDnCtl	Comp.1 OC stepping down cntl		
BI			34	Comp2OCStpDnCtl	Comp.2 OC stepping down cntl		



Object Identifier bits					Short Name	Object Description	
31	22	21	8	7			0
Type	Instance						
	VA	Index					
BI					35	Inv1FinStpDnCtl INV1 Fin stepping down cntl	
BI					36	Inv2FinStpDnCtl INV2 Fin stepping down cntl	

• VRV4S3, VRVX, VRV4-EU

Object Identifier bits					Short Name	Object Description	
31	22	21	8	7			0
Type	Instance						
	VA	Index					
PIV					00	AirNet AirNet Addr.	
IV					01	AmbT Ambient temperature [°C]	
PIV					02	DschTComp1 Discharge pipe temp.(Comp.1) [°C]	
PIV					03	DschTComp2 Discharge pipe temp.(Comp.2) [°C]	
IV					04	EvT Evaporating Temperature [°C]	
IV					05	CndT Condensing Temperature [°C]	
IV					06	HexT Heat exchanger temp. [°C]	
IV					07	HexLiqT Heat exchanger liquid pipe temp. [°C]	
IV					08	ScHexGasT Subcooling heat exchanger gas temp. [°C]	
IV					09	ScHexLiqT Subcooling heat exchanger liquid temp. [°C]	
PIV					10	CompSrfT Compressor surface temp. [°C]	
IV					11	AcclntT Accumulator inlet temp. [°C]	
PIV					12	Comp1Cur Comp.1 current [A]	
PIV					13	Comp2Cur Comp.2 current [A]	
IV					14	Inv1FinT INV1 fin temp. [°C]	
IV					15	Inv2FinT INV2 fin temp. [°C]	
PIV					16	InvFanCur INV FAN current [A]	

• mini-VRV, VRV-M

Object Identifier bits					Short Name	Object Description	
31	22	21	8	7			0
Type	Instance						
	VA	Index					
PIV					00	AirNet AirNet Addr.	
PIV					01	HP HP [hp]	
IV					02	AmbT Ambient temperature [°C]	
IV					03	SuctT Suction Temperature [°C]	
IV					04	EvT Evaporating Temperature [°C]	
IV					05	CndT Condensing Temperature [°C]	
PIV					06	EVOp1 EV opening 1 [pls]	
PIV					07	EVOp2 EV opening 2 [pls]	
PIV					08	CTSTD1 CT1 (STD1) [A]	
PIV					09	CTSTD2 CT2 (STD2) [A]	
PIV					10	FanStp Fan step	
IV					11	CiIT R4T :Coil temp. [°C]	



Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance		Index		
	VA				
IV			12	ScCilExtT	Subcooling Coil exit Temp. [°C]
PIV			13	DschTInv	Disch. temp.(INV) [°C]
PIV			14	DschTStd1	Disch. temp.(STD1) [°C]
PIV			15	DschTStd2	Disch. temp.(STD2) [°C]
IV			16	RcvrLiqT	Receiver Liquid Temp. [°C]
PIV			17	InvT	Inverter temp. [°C]
PIV			18	InvCur	Inverter current [A]
PIV			19	InvFanCur	INV FAN current [A]
BI			20	Comp1Inv	Compressor1(INV)
BI			21	Comp2Std1	Compressor2(STD1)
BI			22	Comp3Std2	Compressor3(STD2)
BI			23	OiRtrn	Oil return
BI			24	HotGas	Hot Gas
BI			25	CcH1	CH1:Crankcase Heater
BI			26	CcH2	CH2:Crankcase Heater
BI			27	CcH3	CH3:Crankcase Heater
BI			28	SoftStrt	Soft start
BI			29	ResrtStby	Restart stand-by
BI			30	MuIOi	Multi oil
BI			31	ErrState	Unit Error stat
BI			32	EnrgyCutOutp	Energy cut output
BI			33	HiPRtry	High pressure retry
BI			34	LoPRtry	Low pressure retry
BI			35	DischPipRtry	Disch. pipe retry
BI			36	4WayVlv	4 way valve
BI			37	Injct	Injection
BI			38	Dfrst	Defrost
BI			39	HiPDroCtl	High pres. drooping cntl.
BI			40	LoPDroCtl	Low pres. drooping cntl.
BI			41	InvDschDroCtl	INV Disch. pipe drooping cntl.
BI			42	InvCurDroCtl	INV current drooping cntl.
BI			43	InvFinDroCtl	INV fin drooping cntl.
BI			44	Std1DschDroCtl	INV fin drooping cntl.
BI			45	Std1OCDroCtl	INV fin drooping cntl.
BI			46	Std2DschDroCtl	INV fin drooping cntl.
BI			47	Std2OCDroCtl	INV fin drooping cntl.
BI			48	InvStby	INV stand-by
BI			49	RcvrGasIn	SVL:Receiver gas in
BI			50	RcvrGasOut	SVG:Receiver gas out
BI			51	StpUnGasOut	SVSG:StopUnit Gas out
BI			52	StpUnLiqPipCls	SVSL:StopUnit Liquid pipe close
IV			53	OiPEqT	Oil Pres. equalizer Temp. [°C]
PIV			54	InvFrq	Inverter frequency [Hz]

• VRV-M(REYQ8-48M)

Object Identifier bits					Short Name	Object Description	
31	22	21	8	7			0
Type	Instance						
	VA	Index					
PIV					00	AirNet	AirNet Addr.
PIV					01	HP	HP [hp]
IV					02	AmbT	Ambient temperature [°C]
IV					03	SuctT	Suction Temperature [°C]
IV					04	EvT	Evaporating Temperature [°C]
IV					05	CndT	Condensing Temperature [°C]
PIV					06	EVOp1	EV opening 1 [pls]
PIV					07	EVOp2	EV opening 2 [pls]
PIV					08	EVOp3	EV opening 3 [pls]
PIV					09	CTSTD1	CT1 (STD1) [A]
PIV					10	CTSTD2	CT2 (STD2) [A]
PIV					11	FanStp	Fan step
IV					12	CilT	R4T :Coil temp. [°C]
IV					13	ScCilExtT	Subcooling Coil exit Temp. [°C]
PIV					14	DschTInv	Disch. temp.(INV) [°C]
PIV					15	DschTStd1	Disch. temp.(STD1) [°C]
PIV					16	DschTStd2	Disch. temp.(STD2) [°C]
IV					17	RcvrLiqT	Receiver Liquid Temp. [°C]
PIV					18	InvT	Inverter temp. [°C]
PIV					19	InvCur	Inverter current [A]
PIV					20	InvFanCur	INV FAN current [A]
BI					21	Comp1Inv	Compressor1(INV)
BI					22	Comp2Std1	Compressor2(STD1)
BI					23	Comp3Std2	Compressor3(STD2)
BI					24	OiRtrn	Oil return
BI					25	HotGas	Hot Gas
BI					26	CcH1	CH1:Crankcase Heater
BI					27	CcH2	CH2:Crankcase Heater
BI					28	CcH3	CH3:Crankcase Heater
BI					29	SoftStrt	Soft start
BI					30	ResrtStby	Restart stand-by
BI					31	MulOi	Multi oil
BI					32	ErrState	Unit Error stat
BI					33	EnrgyCutOutp	Energy cut output
BI					34	HiPRtry	High pressure retry
BI					35	LoPRtry	Low pressure retry
BI					36	DischPipRtry	Disch. pipe retry
BI					37	4WayVlv1	4-way valve 1
BI					38	4WayVlv2	4-way valve 2
BI					39	Dfrst	Defrost
BI					40	HiPDroCtl	High pres. drooping cntl.



Object Identifier bits					Short Name	Object Description	
31	22	21	8	7			0
Type	Instance		Index				
	VA						
BI					41	LoPDroCtl	Low pres. drooping cntl.
BI					42	InvDschDroCtl	INV Disch. pipe drooping cntl.
BI					43	InvCurDroCtl	INV current drooping cntl.
BI					44	InvFinDroCtl	INV fin drooping cntl.
BI					45	Std1DschDroCtl	INV fin drooping cntl.
BI					46	Std1OCDroCtl	INV fin drooping cntl.
BI					47	Std2DschDroCtl	INV fin drooping cntl.
BI					48	Std2OCDroCtl	INV fin drooping cntl.
BI					49	InvStby	INV stand-by
BI					50	RcvrGasIn	SVL:Receiver gas in
BI					51	RcvrGasOut	SVG:Receiver gas out
BI					52	StpUnGasOut	SVSG:StopUnit Gas out
BI					53	StpUnLiqPipCls	SVSL:StopUnit Liquid pipe close
BI					54	HiPRduVlv	Y7S:High pressure reducing valve
IV					55	OiPEqT	Oil Pres. equalizer Temp. [°C]
PIV					56	InvFrq	Inverter frequency [Hz]
IV					57	CilGas1T	R81T:Coil gas 1 temp. [°C]
IV					58	CilGas2T	R81T:Coil gas 2 temp. [°C]

- VRV-3R, VRV3C

Object Identifier bits					Short Name	Object Description	
31	22	21	8	7			0
Type	Instance		Index				
	VA						
PIV					00	AirNet	AirNet Addr.
PIV					01	HP	HP [hp]
IV					02	AmbT	Ambient temperature [°C]
IV					03	SuctT	Suction Temperature [°C]
IV					04	EvT	Evaporating Temperature [°C]
IV					05	CndT	Condensing Temperature [°C]
PIV					06	InvRS	Inverter Revolution Speed [rps]
PIV					07	EVOp1	EV opening 1 [pls]
PIV					08	EVOp2	EV opening 2 [pls]
PIV					09	EVOp	EV opening [pls]
PIV					10	CTSTD1	CT1 (STD1) [A]
PIV					11	CTSTD2	CT2 (STD2) [A]
PIV					12	FanStp	Fan step
PIV					13	DschTInv	Disch. temp.(INV) [°C]
PIV					14	DschTStd1	Disch. temp.(STD1) [°C]
PIV					15	DschTStd2	Disch. temp.(STD2) [°C]
IV					16	InvT	Inverter temp. [°C]
PIV					17	InvCur	Inverter current [A]
PIV					18	InvFanCur	INV FAN current [A]



Object Identifier bits					Short Name	Object Description	
31	22	21	8	7			0
Type	Instance		VA	Index			
	BI						
BI				20	Comp2Std1	Compressor2(STD1)	
BI				21	Comp3Std2	Compressor3(STD2)	
BI				22	OiRtrn	Oil return	
BI				23	HotGas	Hot Gas	
BI				24	CcH1	CH1:Crankcase Heater	
BI				25	CcH2	CH2:Crankcase Heater	
BI				26	CcH3	CH3:Crankcase Heater	
BI				27	SoftStrt	Soft start	
BI				28	ResrtStby	Restart stand-by	
BI				29	ErrState	Unit Error stat	
BI				30	EnrgyCutOutp	Energy cut output	
BI				31	HiPRtry	High pressure retry	
BI				32	LoPRtry	Low pressure retry	
BI				33	DischPipRtry	Disch. pipe retry	
BI				34	4WayVlv	4 way valve	
BI				35	4WayVlv2	4-way valve 2	
BI				36	Dfrst	Defrost	
BI				37	HiPStpDnCtl	H.P. stepping down cntl	
BI				38	LoPStpDnCtl	L.P. stepping down cntl	
BI				39	DmndStpDnCtl	Demand stepping down cntl	
BI				40	InvRtry	INV retry	
BI				41	InvDsSchStpDnCtl	INV Disch. stepping down cntl	
BI				42	InvOCStpDnCtl	INV OC stepping down cntl	
BI				43	InvFinStpDnCtl	INV Fin stepping down cntl	
BI				44	Std1DsSchStpDnCtl	STD1 Disch. stepping down cntl	
BI				45	Std1OCStpDnCtl	STD1 OC stepping down cntl	
BI				46	Std2DsSchStpDnCtl	STD2 Disch. stepping down cntl	
BI				47	Std2OCStpDnCtl	STD2 OC stepping down cntl	
BI				48	EVByP	EV bypass	
BI				49	RfrgGasPrg	Refrigerant regu. gas purging	
BI				50	RfrgLiq	Refrigerant regu. liquid	
BI				51	RfrgDsChng	Refrigerant regu. discharging	
BI				52	RfrgDsCh	Refrigerant regu. discharge	
BI				53	OpOutp	Operation output	
IV				54	HexT	Heat exchanger temp. [°C]	
IV				55	HexGasT	Heat Ex. Gas temp. [°C]	
IV				56	HexLiqT	Heat exchanger liquid pipe temp. [°C]	
IV				57	ScHexGasT	Subcooling heat exchanger gas temp. [°C]	
IV				58	ScHexLiqT	Subcooling heat exchanger liquid temp. [°C]	
IV				59	EVLiqT	EV liquid pipe temp. [°C]	

- VRV-4R



Object Identifier bits					Short Name	Object Description	
31	22	21	8	7			0
Type	Instance						
	VA	Index					
PIV					00	AirNet	AirNet Addr.
PIV					01	HP	HP [hp]
PIV					02	Inv1RotAmnt	INV 1 rotation amount [rps]
PIV					03	Inv2RotAmnt	INV 2 rotation amount [rps]
PIV					04	Fan1RotAmnt	Fan 1 rotation amount [rpm]
PIV					05	Fan2RotAmnt	Fan 2 rotation amount [rpm]
PIV					06	FanStp	Fan step
PIV					07	EVOp1	EV opening 1 [pls]
PIV					08	EVOp2	EV opening 2 [pls]
PIV					09	EVOp3	EV opening 3 [pls]
PIV					10	EVOp4	EV4 pls.(receiver gas purge) [pls]
PIV					11	EVOp5	EV5 pls.(cooling refrigerant) [pls]
PIV					12	EVOp6	EV6 pls.(leak detection) [pls]
BI					13	CompInv1	Compressor 1(INV1)
BI					14	CompInv2	Compressor 2(INV2)
BI					15	CcH1	CH1:Crankcase Heater
BI					16	CcH2	CH2:Crankcase Heater
BI					17	4WayMv	4 way valve
BI					18	OiRtrn1	Oil return 1
BI					19	OiRtrn2	Oil return 2
BI					20	ErrState	Unit Error stat
BI					21	4WayMvUp	4-way valve(upper heat exchanger)
BI					22	4WayMvUndr	4-way valve(under heat exchanger)
BI					23	SolMv	Sol. valve(shutoff liquid pipe)
BI					24	DrnPanHtr	Drain pan heater
BI					25	ErgyCutOutp	Energy cut output
BI					26	HiPRtry	High pressure retry
BI					27	LoPRtry	Low pressure retry
BI					28	DischPipRtry	Disch. pipe retry
BI					29	OHSby	Overheating stand-by
BI					30	Inv1Stby	INV1 stand-by
BI					31	Inv2Stby	INV2 stand-by
BI					32	HiPStpDnCtl	H.P. stepping down cntl
BI					33	LoPStpDnCtl	L.P. stepping down cntl
BI					34	DmndStpDnCtl	Demand stepping down cntl
BI					35	Comp1DsSchStpDnCtl	Comp.1 Disch. stepping down cntl
BI					36	Comp2DsSchStpDnCtl	Comp.2 Disch. stepping down cntl
BI					37	Comp1OCStpDnCtl	Comp.1 OC stepping down cntl
BI					38	Comp2OCStpDnCtl	Comp.2 OC stepping down cntl
BI					39	Inv1FinStpDnCtl	INV1 Fin stepping down cntl
BI					40	Inv2FinStpDnCtl	INV2 Fin stepping down cntl

- VRV-4R



Object Identifier bits					Short Name	Object Description	
31	22	21	8	7			0
Type		Instance					
		VA	Index				
PIV				00	AirNet	AirNet Addr.	
IV				01	AmbT	Ambient temperature [°C]	
PIV				02	DschTComp1	Discharge pipe temp.(Comp.1) [°C]	
IV				03	DschTComp2	Discharge pipe temp.(Comp.2) [°C]	
IV				04	EvT	Evaporating Temperature [°C]	
IV				05	CndT	Condensing Temperature [°C]	
IV				06	HexT	Heat exchanger temp. [°C]	
IV				07	HexLiqT	Heat exchanger liquid pipe temp. [°C]	
IV				08	HexGasTUp	Heat exchanger gas pipe temp.(upper) [°C]	
IV				09	HexGasTLo	Heat exchanger gas pipe temp.(low) [°C]	
IV				10	HexLiqTUp	Heat exchanger liquid pipe temp.(upper) [°C]	
IV				11	HexLiqTLo	Heat exchanger liquid pipe temp.(low) [°C]	
IV				12	ScHexGasT	Subcooling heat exchanger gas temp. [°C]	
IV				13	ScHexLiqT	Subcooling heat exchanger liquid temp. [°C]	
IV				14	SuctT	Suction Temperature [°C]	
IV				15	CompSuctPipT	Comp. suction pipe temp. [°C]	
PIV				16	CompSrfT	Compressor surface temp. [°C]	
IV				17	RcvrInltT	Receiver inlet temp. [°C]	
IV				18	RcvrGasPrgT	Receiver gas purge temp. [°C]	
PIV				19	Comp1Cur	Comp.1 current [A]	
PIV				20	Comp2Cur	Comp.2 current [A]	
IV				21	Inv1FinT	INV1 fin temp. [°C]	
IV				22	Inv2FinT	INV2 fin temp. [°C]	
PIV				23	InvFanCur	INV FAN current [A]	

3.2.2 ME

Enter topic text here.

3.2.2.1 ME PRO Outdoor Units

• PUMY-P100-140Y/VHM/36-48NHMU

Object Identifier bits					Short Name	Object Description	
31	22	21	8	7			0
Type		Instance					
		VA	Index				
CSV				00	Type	Outdoor System Type Name	
BI				01	TH3	TH3	
PIV				02	TH4	TH4	
BI				03	TH6	TH6	
BI				04	TH7	TH7	
BI				05	TH8	TH8	
BI				06	63HS	63HS	
BI				07	Vdc	Vdc	



Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
BI			08	li	li
BI			09	lc	lc
PIV			10	F(Hz)	F(Hz)
BI			11	FAN	FAN
BI			12	Pdm	Pdm
BI			13	ETm	ETm
PIV			14	SC	SC
BI			15	SCm	SCm
PIV			16	LEV1	LEV1
AI			17	LEV2	LEV2
AI			18	LEV3	LEV3
AI			19	LEV4	LEV4

• **PUMY-P*VY/NH/KM(BR4/UR4/SR1/C-C/-A)**

Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
CSV			00	Type	Outdoor System Type Name
IV			01	TH2	TH2
BI			02	TH3	TH3
			03	TH4	TH4
BI			04	TH6	TH6
			05	TH7	TH7
BI			06	TH8	TH8
			07	63HS	63HS
BI			08	63LS	63LS
BI			09	Vdc	Vdc
BI			10	li	li
			11	lc	lc
BI			12	F(Hz)	F(Hz)
BI			13	FAN	FAN
			14	Pdm	Pdm
BI			15	ETm	ETm
			16	SC	SC
BI			17	SCm	SCm
			18	LEV1	LEV1
BI			19	LEV2	LEV2
			20	LEV3	LEV3
BI			21	LEV4	LEV4

• **PURY-P [capacity]PUHY-P [capacity]**



Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
CSV		00	Type	Outdoor System Type Name	
AI		01	TH1	TH1	
AI		02	TH2	TH2	
BI		03	TH3	TH3	
AI		04	TH4	TH4	
AI		05	TH5	TH5	
AI		06	TH6	TH6	
AI		07	TH7	TH7	
		08	TH8	TH8	
BI		09	TH9	TH9	
		10	TH10	TH10	
AI		11	TH12	TH12	
AI		12	63HS	63HS	
AI		13	63LS	63LS	
IV		14	THHS	THHS	
BI		15	THBOX	THBOX	
AI		16	Tc	Tc	
PIV		17	Te	Te	
		18	F(Hz)	F(Hz)	
PIV		19	FAN	FAN	
AI		20	QjC	QjC	
AI		21	QjH	QjH	
PIV		22	SCo	SCo	
PIV		23	SCc	SCc	
PIV		24	SHb	SHb	

• PURY-P [capacity]

Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
CSV		00	Type	Outdoor System Type Name	
AI		01	TH2	TH2	
BI		02	TH3	TH3	
AI		03	TH4	TH4	
AI		04	TH5	TH5	
AI		05	TH6	TH6	
AI		06	TH7	TH7	
BI		07	TH9	TH9	
		08	TH10	TH10	
AI		09	TH11	TH11	
AI		10	TH12	TH12	
AI		11	63HS	63HS	



Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
AI			12	63LS	63LS
IV			13	THHS	THHS
AI			14	Tc	Tc
PIV			15	Te	Te
PIV			16	F(Hz)	F(Hz)
PIV			17	FAN	FAN
AI			18	QjC	QjC
AI			19	QjH	QjH

• PURY-(E)P [capacity]PURY-(W) [capacity]

Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
CSV			00	Type	Outdoor System Type Name
AI			01	TH3	TH3
AI			02	TH4	TH4
AI			03	TH5	TH5
AI			04	TH6	TH6
AI			05	TH7	TH7
AI			06	63HS1	63HS1
AI			07	63LS	63LS
IV			08	THHS	THHS
BI			09	Tc	Tc
BI			10	Te	Te
BI			11	Vdc	Vdc
PIV			12	lu	lu
PIV			13	lw	lw
BI			14	F(Hz)	F(Hz)
PIV			15	FAN	FAN
BI			16	Foc	Foc
BI			17	QjC	QjC
BI			18	QjH	QjH

• PURY-(E)P [capacity]PURY-(E) [capacity]

Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
CSV			00	Type	Outdoor System Type Name
AI			01	TH3	TH3
AI			02	TH4	TH4
AI			03	TH5	TH5



Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
AI			04	TH6	TH6
AI			05	TH7	TH7
AI			06	63HS1	63HS1
AI			07	63LS	63LS
IV			08	THHS	THHS
BI			09	Tc	Tc
BI			10	Te	Te
BI			11	Vdc	Vdc
PIV			12	lu	lu
PIV			13	lw	lw
PIV			14	FAN	FAN
BI			15	QjC	QjC
BI			16	QjH	QjH

• PURY-P [capacity]

Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
CSV			00	Type	Outdoor System Type Name
AI			01	TH1	TH1
AI			02	TH2	TH2
AI			03	TH5	TH5
AI			04	TH6	TH6
AI			05	TH7	TH7
AI			06	63HS	63HS
AI			07	63LS	63LS
IV			08	THHS	THHS
AI			09	Tc	Tc
PIV			10	Te	Te
PIV			11	Vdc	Vdc
PIV			12	lu	lu
PIV			13	lw	lw
			14	F(Hz)	F(Hz)
PIV			15	FAN	FAN
AI			16	QjC	QjC
AI			17	QjH	QjH

• PURY-P [capacity]



Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
CSV			00	Type	Outdoor System Type Name
AI			01	TH5	TH5
AI			02	TH6	TH6
AI			03	TH7	TH7
AI			04	TH11	TH11
AI			05	63HS	63HS
AI			06	63LS	63LS
AI			07	Tc	Tc
PIV			08	Te	Te
PIV			09	Vdc	Vdc
PIV			10	lu	lu
PIV			11	lw	lw
PIV			12	F(Hz)	F(Hz)
PIV			13	FAN	FAN
AI			14	QjC	QjC
AI			15	QjH	QjH
PIV			16	SCo	SCo
PIV			17	SCc	SCc
PIV			18	SHb	SHb

• PURY-P [capacity]

Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
CSV			00	Type	Outdoor System Type Name
AI			01	TH5	TH5
AI			02	TH6	TH6
AI			03	TH7	TH7
AI			04	TH11	TH11
AI			05	TH12	TH12
AI			06	63HS	63HS
AI			07	63LS	63LS
AI			08	Tc	Tc
PIV			09	Te	Te
PIV			10	Vdc	Vdc
PIV			11	lu	lu
PIV			12	lw	lw
PIV			13	F(Hz)	F(Hz)
PIV			14	FAN	FAN
AI			15	QjC	QjC
AI			16	QjH	QjH
PIV			17	SCo	SCo



Object Identifier bits					Short Name	Object Description	
31	22	21	8	7			0
Type		Instance					
VA	Index						
PIV				18	SCc	SCc	
PIV				19	SHb	SHb	

• PURY-P [capacity] (T/Y)LMU

Object Identifier bits					Short Name	Object Description	
31	22	21	8	7			0
Type		Instance					
VA	Index						
CSV				00	Type	Outdoor System Type Name	
AI				01	TH3	TH3	
AI				02	TH4	TH4	
AI				03	TH5	TH5	
AI				04	TH6	TH6	
AI				05	TH7	TH7	
AI				06	63HS1	63HS1	
AI				07	63LS	63LS	
IV				08	THHS	THHS	
BI				09	Tc	Tc	
BI				10	Te	Te	
				11	Vdc	Vdc	
PIV				12	lu	lu	
PIV				13	lw	lw	
BI				14	F(Hz)	F(Hz)	
PIV				15	FAN	FAN	
BI				16	Foc	Foc	
BI				17	QjC	QjC	
BI				18	QjH	QjH	

• PURY-P [capacity] YLM-A

Object Identifier bits					Short Name	Object Description	
31	22	21	8	7			0
Type		Instance					
VA	Index						
CSV				00	Type	Outdoor System Type Name	
AI				01	TH3	TH3	
AI				02	TH4	TH4	
AI				03	TH5	TH5	
AI				04	TH6	TH6	
AI				05	TH7	TH7	
BI				06	TH9	TH9	
				07	TH11	TH11	
AI				08	63HS1	63HS1	
AI				09	63LS	63LS	



Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
IV			10	THHS	THHS
BI			11	Tc	Tc
BI			12	Te	Te
			13	Vdc	Vdc
PIV			14	lu	lu
PIV			15	lw	lw
BI			16	F(Hz)	F(Hz)
PIV			17	FAN	FAN
BI			18	Foc	Foc
BI			19	QjC	QjC
BI			20	QjH	QjH

• **PUHY-EP [capacity] YLM-APUHY-P [capacity] YKB**

Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
CSV			00	Type	Outdoor System Type Name
AI			01	TH2	TH2
AI			02	TH3	TH3
AI			03	TH4	TH4
AI			04	TH5	TH5
AI			05	TH6	TH6
AI			06	TH7	TH7
			07	TH9	TH9
BI			08	TH11	TH11
AI			09	63HS1	63HS1
AI			10	63HS2	63HS2
AI			11	63LS	63LS
IV			12	THHS	THHS
BI			13	Tc	Tc
BI			14	Te	Te
AI			15	Vdc	Vdc
PIV			16	lu	lu
PIV			17	lw	lw
BI			18	F(Hz)	F(Hz)
PIV			19	FAN	FAN
BI			20	Foc	Foc
BI			21	QjC	QjC
BI			22	QjH	QjH
BI			23	SCo	SCo
PIV			24	SCc	SCc
BI			25	SHb	SHb



Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
			26	LEV1	LEV1

• PUYH-EP [capacity] YLM-A

Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
CSV			00	Type	Outdoor System Type Name
AI			01	TH2	TH2
AI			02	TH3	TH3
AI			03	TH4	TH4
AI			04	TH5	TH5
AI			05	TH6	TH6
AI			06	TH7	TH7
			07	TH9	TH9
BI			08	TH11	TH11
AI			09	63HS1	63HS1
AI			10	63HS2	63HS2
AI			11	63LS	63LS
IV			12	THHS	THHS
BI			13	Tc	Tc
BI			14	Te	Te
AI			15	Vdc	Vdc
PIV			16	lu	lu
PIV			17	lw	lw
PIV			18	FAN	FAN
BI			19	QjC	QjC
BI			20	QjH	QjH
BI			21	SCo	SCo
PIV			22	SCc	SCc
BI			23	SHb	SHb
			24	LEV1	LEV1

• PUYH-P [capacity] YNW-APUYH-P [capacity] YNW-A

Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
CSV			00	Type	Outdoor System Type Name
AI			01	TH2	TH2
AI			02	TH3	TH3
AI			03	TH4	TH4
AI			04	TH5	TH5



Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
AI			05	TH6	TH6
AI			06	TH7	TH7
			07	TH9	TH9
BI			08	TH11	TH11
BI			09	TH12	TH12
AI			10	63HS1	63HS1
AI			11	63HS2	63HS2
AI			12	63LS	63LS
IV			13	THHS	THHS
BI			14	Tc	Tc
BI			15	Te	Te
AI			16	Vdc	Vdc
PIV			17	lu	lu
PIV			18	lw	lw
BI			19	F(Hz)	F(Hz)
PIV			20	FAN	FAN
BI			21	Foc	Foc
BI			22	QjC	QjC
BI			23	QjH	QjH
BI			24	SCo	SCo
PIV			25	SCc	SCc
BI			26	SHb	SHb
			27	LEV1	LEV1

- PUHY-P [capacity] YNW-A

Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
CSV			00	Type	Outdoor System Type Name
AI			01	TH2	TH2
AI			02	TH3	TH3
AI			03	TH4	TH4
AI			04	TH5	TH5
AI			05	TH6	TH6
AI			06	TH7	TH7
			07	TH9	TH9
BI			08	TH11	TH11
BI			09	TH12	TH12
AI			10	63HS1	63HS1
AI			11	63HS2	63HS2
AI			12	63LS	63LS
IV			13	THHS	THHS



Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
BI			14	Tc	Tc
BI			15	Te	Te
AI			16	Vdc	Vdc
PIV			17	lu	lu
PIV			18	lw	lw
PIV			19	FAN	FAN
BI			20	QjC	QjC
BI			21	QjH	QjH
BI			22	SCo	SCo
PIV			23	SCc	SCc
BI			24	SHb	SHb
			25	LEV1	LEV1

- **PUHY-(E)P [capacity]**

Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
CSV			00	Type	Outdoor System Type Name
AI			01	TH2	TH2
AI			02	TH3	TH3
AI			03	TH4	TH4
AI			04	TH5	TH5
AI			05	TH6	TH6
AI			06	TH7	TH7
AI			07	63HS1	63HS1
AI			08	63LS	63LS
IV			09	THHS	THHS
BI			10	Tc	Tc
BI			11	Te	Te
BI			12	Vdc	Vdc
PIV			13	lu	lu
PIV			14	lw	lw
BI			15	F(Hz)	F(Hz)
PIV			16	FAN	FAN
BI			17	Foc	Foc
BI			18	QjC	QjC
BI			19	QjH	QjH
BI			20	SCo	SCo
PIV			21	SCc	SCc
BI			22	SHb	SHb

- **PUHY-(E)P [capacity]**



Object Identifier bits					Short Name	Object Description	
31	22	21	8	7			0
Type		Instance					
VA	Index						
CSV					00	Type Outdoor System Type Name	
AI					01	TH2	
AI					02	TH3	
AI					03	TH4	
AI					04	TH5	
AI					05	TH6	
AI					06	TH7	
AI					07	63HS1	
AI					08	63LS	
IV					09	THHS	
BI					10	THBOX	
BI					11	Tc	
BI					12	Te	
BI					13	Vdc	
PIV					14	lu	
PIV					15	lw	
BI					16	F(Hz)	
PIV					17	FAN	
BI					18	Foc	
BI					19	QjC	
BI					20	QjH	
BI					21	SCo	
PIV					22	SCc	
BI					23	SHb	
					24	LEV1	
BI					25	LEV2	

• PUHY-(E)P [capacity]

Object Identifier bits					Short Name	Object Description	
31	22	21	8	7			0
Type		Instance					
VA	Index						
CSV					00	Type Outdoor System Type Name	
AI					01	TH2	
AI					02	TH3	
AI					03	TH4	
AI					04	TH5	
AI					05	TH6	
AI					06	TH7	
AI					07	63HS1	
AI					08	63LS	
IV					09	THHS	
BI					10	Tc	



Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
BI			11	Te	Te
BI			12	Vdc	Vdc
PIV			13	lu	lu
PIV			14	lw	lw
PIV			15	FAN	FAN
BI			16	QjC	QjC
BI			17	QjH	QjH
BI			18	SCo	SCo
PIV			19	SCc	SCc
BI			20	SHb	SHb

• PUHY-(E)P [capacity]

Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
CSV			00	Type	Outdoor System Type Name
AI			01	TH2	TH2
AI			02	TH3	TH3
AI			03	TH4	TH4
AI			04	TH5	TH5
AI			05	TH6	TH6
AI			06	TH7	TH7
AI			07	63HS1	63HS1
AI			08	63LS	63LS
IV			09	THHS	THHS
BI			10	THBOX	THBOX
BI			11	Tc	Tc
BI			12	Te	Te
BI			13	Vdc	Vdc
PIV			14	lu	lu
PIV			15	lw	lw
PIV			16	FAN	FAN
BI			17	QjC	QjC
BI			18	QjH	QjH
BI			19	SCo	SCo
PIV			20	SCc	SCc
BI			21	SHb	SHb
			22	LEV1	LEV1
BI			23	LEV2	LEV2

• BC



Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
CSV			00	Type	Outdoor System Type Name
AI			01	T1	T1
AI			02	T2	T2
BI			03	T3	T3
AI			04	T4	T4
AI			05	T5	T5
AI			06	T6	T6
AI			07	P1	P1
BI			08	P2	P2
PIV			09	P3	P3
AI			10	L1	L1
AI			11	L2	L2
AI			12	L3	L3
			13	L4	L4

- BC(main)

Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
CSV			00	Type	Outdoor System Type Name
AI			01	T1	T1
AI			02	T2	T2
AI			03	T5	T5
AI			04	T6	T6
AI			05	P1	P1
PIV			06	P3	P3
AI			07	L1	L1
AI			08	L3	L3

- BC(main)BC(main)

Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
CSV			00	Type	Outdoor System Type Name
AI			01	T1	T1
AI			02	T2	T2
AI			03	T5	T5
AI			04	T6	T6
AI			05	P1	P1
PIV			06	P3	P3
AI			07	L1	L1



Object Identifier bits					Short Name	Object Description
31	22	21	8	7 0		
Type	Instance					
VA	Index					
AI	08				L2	L2
AI	09				L3	L3

• BC(sub)

Object Identifier bits					Short Name	Object Description
31	22	21	8	7 0		
Type	Instance					
VA	Index					
CSV	00				Type	Outdoor System Type Name
AI	01				T2	T2
AI	02				T5	T5
AI	03				L3	L3

3.2.3 LG

3.2.3.1 LG PRO Outdoor Units

• Multi V IV

Object Identifier bits					Short Name	Object Description
31	22	21	8	7 0		
Type	Instance					
VA	Index					
CSV	00				Type	Outdoor System Type Name
CSV	01				Mode	Operation Mode
PIV	02				Err	Error Code
AI	03				AvgT	Average indoor temperature [°C]
PIV	04				HiPrsTrg	Target high pressure [KPa]
PIV	05				HiPrsTrc	Current high pressure [KPa]
PIV	06				LoPrsTrg	Target low pressure [KPa]
PIV	07				LoPrsTrc	Current low pressure [KPa]
AI	08				ComprRatio	Compression ratio x 0.1
AI	09				SHTrg	Target degree of super heat x 0.1 [°C]
AI	10				SHTrc	Current degree of super heat x 0.1 [°C]
AI	11				SCTrc	Current degree of subcooling x 0.1 [°C]
AI	12				SCSHTrg	Target degree of subcooling and super heat x 0.1 [°C]
AI	13				SCSCTrc	Current degree of subcooling and super heat x 0.1 [°C]
PIV	14				Inv1TrgFrq	Inverter 1 target frequency [Hz]
PIV	15				Inv1TrcFrq	Inverter 1 current frequency [Hz]
PIV	16				Inv2TrgFrq	Inverter 2 target frequency [Hz]
PIV	17				Inv2TrcFrq	Inverter 2 current frequency [Hz]
PIV	18				Fan1Trg	FAN target RPM [rpm]
PIV	19				Fan1Trc	FAN1 current RPM [rpm]



Object Identifier bits					Short Name	Object Description	
31	22	21	8	7			0
Type		Instance					
VA		Index					
PIV					20	Fan2Trc	FAN2 current RPM [rpm]
PIV					21	MainEEV	Main EEV [pls]
PIV					22	SubEEV	Sub EEV [pls]
PIV					23	ScEEV	Subcooling EEV [pls]
PIV					24	EqEEV	Oil supply EEV [pls]
PIV					25	ViEEV1	Vapor injection EEV1 [pls]
PIV					26	ViEEV2	Vapor injection EEV2 [pls]
AI					27	AirT	Outdoor air temperature x 0.1 [°C]
AI					28	SuctT	Compressor suction temperature x 0.1 [°C]
AI					29	BubT	Condenser temperature x 0.1 [°C]
AI					30	DewT	Evaporator temperature x 0.1 [°C]
AI					31	Inv1DisT	Inverter 1 discharge temperature x 0.1 [°C]
AI					32	Inv2DisT	Inverter 2 discharge temperature x 0.1 [°C]
AI					33	HexT	Heat exchanger pipe temperature x 0.1 [°C]
AI					34	UpHexT	Top heat exchanger pipe temperature x 0.1 [°C]
AI					35	LoHexT	Bottom heat exchanger pipe temperature x 0.1 [°C]
AI					36	ScInT	Subcooling inlet temperature x 0.1 [°C]
AI					37	ScOutT	Subcooling outlet temperature x 0.1 [°C]
AI					38	LiqT	Liquid pipe temperature x 0.1 [°C]
AI					39	Inv1InCT	Inverter 1 input current x 0.1 [A]
AI					40	Inv2InCT	Inverter 2 input current x 0.1 [A]
PIV					41	Inv1InVT	Inverter 1 input voltage [V]
PIV					42	Inv2InVT	Inverter 2 input voltage [V]
PIV					43	Inv1PwrFrq	Inverter 1 power frequency [Hz]
PIV					44	Inv2PwrFrq	Inverter 2 power frequency [Hz]
AI					45	Inv1PhsCT	Inverter 1 phase current x 0.1 [A]
AI					46	Inv2PhsCT	Inverter 2 phase current x 0.1 [A]
AI					47	Fan1PhsCT	Fan1 phase current x 0.1 [A]
AI					48	Fan2PhsCT	Fan2 phase current x 0.1 [A]
PIV					49	FanDcLnk	Fan DC LINK voltage [V]
PIV					50	Inv1DcLnk	Inverter 1 DC LINK voltage [V]
PIV					51	Inv2DcLnk	Inverter 2 DC LINK voltage [V]
PIV					52	Inv1IpmT	Inverter 1 IPM temperature [°C]
PIV					53	Inv2IpmT	Inverter 2 IPM temperature [°C]
AI					54	FanHtSnkT	Outdoor fan heat sink temperature x 0.1 [°C]
PIV					55	DrifSnow	Drifted snow
BI					56	Accum	Oil return valve
BI					57	4way	4 WAY valve
BI					58	HexVlv	Heat exchanger valve
BI					59	HexUpVlv	Heat exchanger top valve
BI					60	HexDnVlv	Heat exchanger bottom valve
BI					61	RcvIn	Normal close valve



Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
BI			62	RcvOut	Normal open valve
BI			63	SuctVlv	Suction valve
BI			64	Inv1HtVlv	Inverter1 heater
BI			65	Inv2HtVlv	Inverter2 heater
BI			66	OilLv1	Oil level 1
BI			67	OilLv2	Oil level 2

3.2.4 Samsung

3.2.4.1 Samsung PRO Outdoor Units

• DVM-S

Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
CSV			00	Type	Outdoor System Type Name
PIV			01	OpMode	Operation Mode
PIV			02	OpStat	Operation Status
PIV			03	ErrCode	Error Code
PIV			04	Cap	Capacity [hp]
AI			05	CurPow	Control Watt-meter x 0.001 [kW]
PIV			06	TrgFreq1	Target Frequency1 [Hz]
PIV			07	OrdFreq1	Order Frequency1 [Hz]
PIV			08	CurFreq1	Current Frequency1 [Hz]
PIV			09	TrgFreq2	Target Frequency2 [Hz]
PIV			10	OrdFreq2	Order Frequency2 [Hz]
PIV			11	CurFreq2	Current Frequency2 [Hz]
AI			12	HiPrs	High Pressure x 0.1 [kg/cm ²]
IV			13	SatTPd	Saturated T_Pd [°C]
AI			14	LoPrs	Low Pressure x 0.1 [kg/cm ²]
IV			15	SatTPs	Saturated T_Ps [°C]
AI			16	MidPrs	Mid Pressure x 0.1 [kg/cm ²]
AI			17	DisT1	Discharge1 x 0.1 [°C]
AI			18	DisT2	Discharge2 x 0.1 [°C]
PIV			19	TstOp	Test Operation(UP)
AI			20	CompTop1	Comp Top1 x 0.1 [°C]
AI			21	CompTop2	Comp Top2 x 0.1 [°C]
AI			22	OutT	Outdoor temperature x 0.1 [°C]
AI			23	CompCur1	Compressor current1 x 0.1 [A]
AI			24	CompCur2	Compressor current2 x 0.1 [A]
AI			25	IPM1T	IPM1 temperature x 0.1 [°C]
AI			26	IPM2T	IPM2 temperature x 0.1 [°C]



Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
AI			27	CondOutT	CondOut temperature x 0.1 [°C]
AI			28	LiqTubT	Liquid tube temperature x 0.1 [°C]
AI			29	Suct1T	Suction1 temperature x 0.1 [°C]
AI			30	Suct2T	Suction2 temperature x 0.1 [°C]
PIV			31	MainEEV	Main EEV
PIV			32	EviEEV	EVI EEV
AI			33	EviIn	EVI IN x 0.1 [°C]
AI			34	EviOut	EVI OUT x 0.1 [°C]
PIV			35	OutFnSt	Outdoor Fan Step
AI			36	PFCM	PFCM Temperature x 0.1 [°C]
BI			37	Comp1	Comp1
BI			38	Comp2	Comp2
BI			39	4Way	4Way valve
BI			40	HotGas1	Hot Gas Bypass 1
BI			41	HotGas2	Hot Gas Bypass2
BI			42	MainCool	Main Cooling
BI			43	EEVlv	EEV Valve
BI			44	EviSol1	EVI Solenoid Valve1
BI			45	EviSol2	EVI Solenoid Valve2
BI			46	EviBps	EVI Bypass
BI			47	CCH1	Comp Coil Heater1
BI			48	CCH2	Comp Coil Heater2

3.2.5 Gree GMV5

3.2.5.1 Gree GMV5 PRO Outdoor Units

- GMV5

Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
CSV			00	Type	Outdoor System Type Name
AI			01	RatedCap	Rated Capacity x 0.1 [kW]
PIV			02	MsSlStat	Master-Slave Status
PIV			03	GenVer	General Protocol Version
PIV			04	UnitVer	Unit Protocol Version
PIV			05	PwrTp	Power Type
PIV			06	FanTp	Fan Type
PIV			07	FanEmerg	Fan Emergency
IV			08	OutT	Outdoor Temp [°C]
PIV			09	Comp1OpFreq	Comp1 Operation Frequency [Hz]
PIV			10	Comp2OpFreq	Comp2 Operation Frequency [Hz]



Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type		Instance			
VA		Index			
PIV			11	Fan1OpFreq	Fan1 Operation Frequency [Hz]
PIV			12	Fan2OpFreq	Fan2 Operation Frequency [Hz]
IV			13	MdIHp	Module HP [°C]
IV			14	MdILp	Module LP [°C]
IV			15	Comp1DisT	Comp1 Discharge Temp [°C]
IV			16	Comp1ShT	Comp1 Shell Temp [°C]
IV			17	Comp2DisT	Comp2 Discharge Temp [°C]
IV			18	Comp2ShT	Comp2 Shell Temp [°C]
IV			19	DfrsT1	Defrosting Temp1 [°C]
IV			20	SubCILiqT	Subcooler Liq Temp [°C]
IV			21	SubCIGsT	Subcooler Gas Temp [°C]
IV			22	SepInT	Separator Inlet Temp [°C]
IV			23	SepOutT	Separator Outlet Temp [°C]
PIV			24	HtEXV	Heating EXV [PIs]
PIV			25	FanStcPrs	High Static Pressure
BI			26	Comp1Stat	Comp1 Status
BI			27	Comp2Stat	Comp2 Status
BI			28	4wayVlv1	4-way Valve1
BI			29	LpMrsVlv	LP Measure Valve
AI			30	Comp1Cur	Comp1 Current [A]
PIV			31	Comp1BsbV	Comp1 Basbar Voltage [V]
IV			32	Comp1IpmT	Comp1 IPM Temp [°C]
AI			33	Fan1Cur	Fan1 Current [A]
PIV			34	Fan1BsbV	Fan1 Basbar Voltage [V]
IV			35	Fan1IpmT	Fan1 IPM Temp [°C]
AI			36	Comp2Cur	Comp2 Current [A]
PIV			37	Comp2BsbV	Comp2 Basbar Voltage [V]
IV			38	Comp2IpmT	Comp2 IPM Temp [°C]
AI			39	Fan2Cur	Fan2 Current [A]
PIV			40	Fan2BsbV	Fan2 Basbar Voltage [V]
IV			41	Fan2IpmT	Fan2 IPM Temp [°C]

• GMV5 HR

Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type		Instance			
VA		Index			
CSV			00	Type	Outdoor System Type Name
AI			01	RatedCap	Rated Capacity x 0.1 [kW]
PIV			02	MsSlStat	Master-Slave Status
PIV			03	GenVer	General Protocol Version
PIV			04	UnitVer	Unit Protocol Version
PIV			05	PwrTp	Power Type



Object Identifier bits				Short Name	Object Description
31	22	21	8 7 0		
Type	Instance				
VA	Index				
PIV		06		FanTp	Fan Type
PIV		07		FanEmerg	Fan Emergency
IV		08		OutT	Outdoor Temp [°C]
PIV		09		Comp1OpFreq	Comp1 Operation Frequency [Hz]
PIV		10		Comp2OpFreq	Comp2 Operation Frequency [Hz]
PIV		11		Fan1OpFreq	Fan1 Operation Frequency [Hz]
PIV		12		Fan2OpFreq	Fan2 Operation Frequency [Hz]
IV		13		MdlHp	Module HP [°C]
IV		14		MdlLp	Module LP [°C]
IV		15		Comp1DisT	Comp1 Discharge Temp [°C]
IV		16		Comp1ShT	Comp1 Shell Temp [°C]
IV		17		Comp2DisT	Comp2 Discharge Temp [°C]
IV		18		Comp2ShT	Comp2 Shell Temp [°C]
IV		19		DfrsT1	Defrosting Temp1 [°C]
IV		20		SubCILiqT	Subcooler Liq Temp [°C]
IV		21		SubCIGsT	Subcooler Gas Temp [°C]
IV		22		SepInT	Separator Inlet Temp [°C]
IV		23		SepOutT	Separator Outlet Temp [°C]
PIV		24		HtEXV	Heating EXV [Pls]
PIV		25		FanStcPrs	High Static Pressure
BI		26		Comp1Stat	Comp1 Status
BI		27		Comp2Stat	Comp2 Status
BI		28		4wayVlv1	4-way Valve1
BI		29		LpMrs Vlv	LP Measure Valve
BI		30		4wayVlv2	4-way Valve2
BI		31		OiRtVlv1	Oil Return Valve1
BI		32		OiRtVlv2	Oil Return Valve2
AI		33		Comp1Cur	Comp1 Current [A]
PIV		34		Comp1BsbV	Comp1 Basbar Voltage [V]
IV		35		Comp1IpmT	Comp1 IPM Temp [°C]
AI		36		Fan1Cur	Fan1 Current [A]
PIV		37		Fan1BsbV	Fan1 Basbar Voltage [V]
IV		38		Fan1IpmT	Fan1 IPM Temp [°C]
AI		39		Comp2Cur	Comp2 Current [A]
PIV		40		Comp2BsbV	Comp2 Basbar Voltage [V]
IV		41		Comp2IpmT	Comp2 IPM Temp [°C]
AI		42		Fan2Cur	Fan2 Current [A]
PIV		43		Fan2BsbV	Fan2 Basbar Voltage [V]
IV		44		Fan2IpmT	Fan2 IPM Temp [°C]
IV		45		Comp1BkOiT	Comp1 Back Oil Temp [°C]
IV		46		Comp2BkOiT	Comp2 Back Oil Temp [°C]
PIV		47		SbclEXV	Subcooler EXV [Pls]



4 Commands Reference

[line](#)

[bacnet](#)

[va](#)

4.1 bacnet

SYNOPSIS

```
bacnet
bacnet IP enable
bacnet IP disable
bacnet port <PORT>
bacnet instance <DEV_INST>
```

DESCRIPTION

- Without parameters `bacnet` command displays current bacnet configuration.
- `bacnet IP` command is used to enable or disable BACnet IP module.
- `bacnet port` command is used to configure UDP port used by BACnet IP module.
- `bacnet instance` command is used to configure Device Instance of the Device Object Identifier.

EXAMPLE

See examples in [Configuration](#) chapter.

4.2 line

SYNOPSIS

```
line
line type <Ln> BAC
line myid <Ln> <TS>
line baud <Ln> <FRAME>
```

DESCRIPTION

<Ln> parameter denotes communication line number like for example: L3 or L4.

- Without parameters `line` command prints status of all communication lines available in specific device.
- `line type` command is used to activate BACnet MS/TP module on line <Ln>.
- `line myid` command is used to change TS address. <TS> parameter should be provided as hexadecimal number without leading 0x.
- `line baud` command is used to change BACnet MS/TP frame format for line <Ln>. <FRAME> parameter format is <BAUD>_<8|9><N|E|O><1|2>. Supported baud rates for <BAUD> parameter are: 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200. Frame format change is effective only after power reset.

EXAMPLE

See examples in [BACnet MS/TP Configuration](#) chapter.

4.3 va

SYNOPSIS

```
va
va auto
va + <UID> <VA>
va delall
va - <UID> | <VA>
va ram <N>
```

DESCRIPTION

<UID> parameter denotes Indoor Unit identifier/number like for example: 11.100 or 12.003. <VA> parameter denotes VA number in decimal format.

- Without parameters `va` command prints status of all allocated VA's.
- `va auto` command is used to automatically distribute VA's for all detected UID's one to one. Previously allocated VA's will be deleted
- `va + <UID> <VA>` command will allocate VA for given UID. Number of VA's allocated for UID is not limited.
- `va delall` command will delete all allocated VA's.
- `va - <UID>` will delete all allocated VA's for given UID.
- `va - <VA>` will delete specific VA.
- `va ram <N>` resizes RAM memory used for VA's. Parameter <N> denotes a desired total number of VA's that can be allocated. By default N=170. VA's memory resize is effective only after power reset.

EXAMPLE

See examples in [VA's Configuration](#) chapter.