

Models

CMMB1020

Description

The CMMB1020 extends your BACnet or Modbus network when your application requires additional inputs and outputs on a physical controller. Capitalizing on the high-density I/O point count of 30 universal inputs and 20 outputs enables the CMMB1020 to provide a cost effective yet advanced integration capability.



CMMB1020

Features

Power and Communication

- 24Vac or 24Vdc supply
- BACnet® MS/TP or Modbus communication port (selectable)

Inputs and Outputs

- 30 universal inputs
- 4 universal outputs
- 4 analog outputs
- 12 binary outputs

Installation

- LED status indication of each output
- DIN rail mounting
- Removable, non-strip, raising clamp terminals

Other

- 16-bits A/D Converter with oversampling and digital filtering
- Supports RTD 1K

Network Communication

- Select MAC address via DIP switch or via network
- BACnet® MS/TP communication on Service port @ 38400 bps
- BACnet® MS/TP or Modbus communication on COM port (selectable via DIP switch)
- MS/TP and Modbus @ 9600, 19200, 38400, 57600, 76800 or 115200 bps
- Automatic baud rate detection

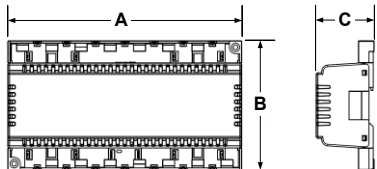
BACnet®

- Automatic device instance configuration
- BACnet Protocol revision 23
- Firmware upgradable via BACnet

Modbus

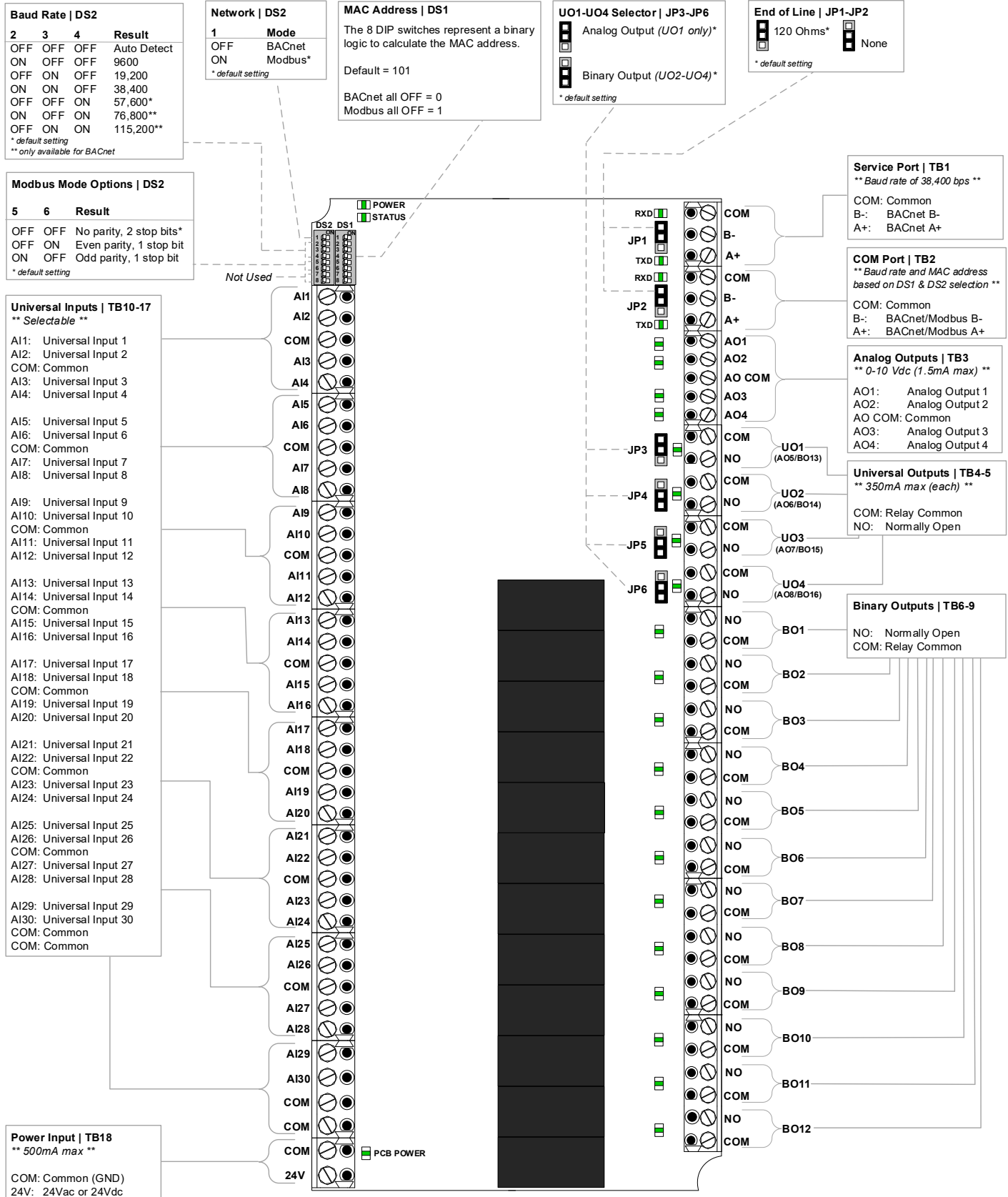
- RTU Slave, 8 bits (configurable parity and stop bits)
- Connects to any Modbus master

Technical Specifications

Specifications	CMMB1020
Input Voltage	24 Vac/Vdc $\pm 10\%$
Consumption	12VA
Universal Inputs	30 [0.000-10.000Vdc, 10K Ω /20K Ω /30K Ω Thermistor, 1K Ω RTD, on/off (dry contact), 4.00-20.00mA]/16-bits hardware resolution
Universal Outputs	4 [0-10Vdc, on/off]/1 mV resolution, OptoFET 350mA max each
Analog Outputs	4 [0-10Vdc]/1 mV resolution
Digital Relay Binary Outputs	12 [normally open, independent common per relay, 5A resistive]
Service Port	BACnet® MS/TP@38400 bps
Communication Port	BACnet® MS/TP@9600, 19200, 38400, 57600, 76800 or 115200 bps (BAS-C). Modbus RTU slave @ 9600, 19200, 38400, 57600, 76800 or 115200. Selectable parity and stop bit configuration: • No parity, 2 stop bits • Even parity, 1 stop bit • Odd parity, 1 stop bit
Communication Connections	24 AWG twisted-shield cable (Belden 9841 or equivalent)
Electrical Connections	0.8 mm ² [18 AWG] minimum
Operational Temperature	0°C to 50°C [32°F to 122°F]
Storage Temperature	-30°C to 50°C [-22°F to 122°F]
Relative Humidity	5 to 95% non-condensing
Weight	0.6 kg [1.3 lb]
Dimensions	 A = 9.18" / 233 mm B = 4.93" / 125 mm C = 2.27" / 58 mm



Connections and Configurations





FCC Compliance



WARNING: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

MAC Address DIP Switch (DS1)

MAC address for BACnet and Modbus communication, are selectable by DIP switch DS1 using binary logic.

BACnet

- Highest MAC address is 254.
- Default is all switches OFF = MAC address 0
- If you do not change device instance in program mode, it will be automatically modified according to the MAC address.

MAC Address	DS.1 = 1	DS.2 = 2	DS.3 = 4	DS.4 = 8	DS.5 = 16	DS.6 = 32	DS.7 = 64	DS.8 = 128	Default Device Instance
0	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	153000
1	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	153001
2	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	153002
3	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	153003
4	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	153004
...	...	...	...	...	...	...	...	...	...
126	OFF	ON	ON	ON	ON	ON	ON	OFF	153126
...	...	...	...	...	...	...	...	...	...
254	OFF	ON	ON	ON	ON	ON	ON	ON	153254

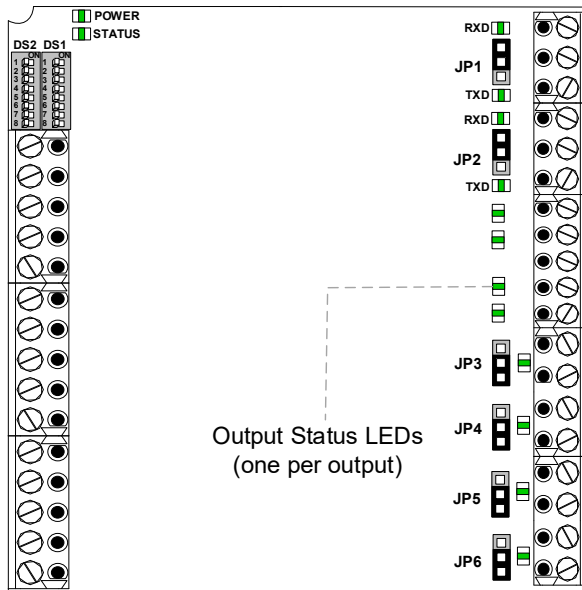
Modbus

- Highest MAC address is 247.
- Default is all switches OFF = MAC address 1.

MAC Address	DS.1 = 1	DS.2 = 2	DS.3 = 4	DS.4 = 8	DS.5 = 16	DS.6 = 32	DS.7 = 64	DS.8 = 128
1	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
1	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
2	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
3	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
4	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
...	...	...	...	...	...	...	...	...
126	OFF	ON	ON	ON	ON	ON	ON	OFF
...	...	...	...	...	...	...	...	...
247	ON	ON	ON	OFF	ON	ON	ON	ON



LEDs



Power

On = Input voltage normal
Off = No power

Status

Flashing = Normal operation (watchdog)

RX/TX (BACnet)

Flashing = Receiving (RX) and/or transmitting (TX) data.

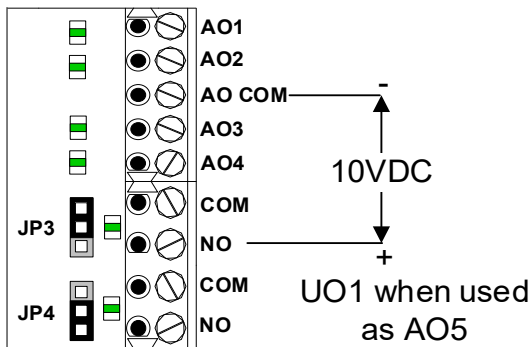
RX/TX (Modbus)

Flashing = Receiving (RX) and/or transmitting (TX) data.

Output Status

On = Activated
Off = Deactivated
Analog = When Universal and Analog outputs are set to analog values (Vdc); the LED intensity corresponds to the output value. For example: At 10Vdc, the LED will be fully on. At 5Vdc, the LED will be at 50% intensity. At 0 Vdc, the LED will be off.

UO in AO Mode – Wiring Example



Universal Outputs Configuration Based on Jumper Position

Universal Output	Output Jumper	Terminal Output	BACnet Objects	Modbus Holding Registers
UO1	JP3	AO5	AO.5, MV.36 and AV.35	46, 362 and 363
	JP3	BO13	BO.13 and MV.52	50 bit 12 and 382
UO2	JP4	AO6	AO.6, MV.37 and AV.36	47, 364 and 365
	JP4	BO14	BO.14 and MV.53	50 bit 13 and 383
UO3	JP5	AO7	AO.7, MV.38 and AV.37	48, 366 and 367
	JP5	BO15	BO.15 and MV.54	50 bit 14 and 384
UO4	JP6	AO8	AO.8, MV.39 and AV.38	49, 368 and 369
	JP6	BO16	BO.16 and MV.55	50 bit 15 and 388



Object/Register Description

Terminal Output AO.x [Output value, Failsafe mode, Failsafe preset]

Terminal Output BO.x [Output value, Failsafe preset]

Standard Hardware Features

Service Port

The Service port is a BACnet MSTP port with a fixed speed of 38400 bps that is mainly used for diagnosis purposes. The MAC address is set to 0, by default. The MAC address can be changed through BACnet by:

- Changing the Object Network Port 2 (Object name: Service Port)
- Property Mac Address
- Performing a Warm Start

The objects connected to the Service port are available in the same way as they are connected on the User Port.



Note: The Service port is always enabled. It cannot be set to Out_of_Service.

Input/Output (I/O) Profile

The CMMB1020 has four different IO profiles that speed up the process of configuring all 30 inputs by selecting only one configuration. The following are the four profiles:

- Custom
- Profile 1
- Profile 2
- Profile 3

If you select the Custom profile, the existing configuration of the Universal Inputs 1 to 30 will be available.

If you select one of the three profiles 1, 2 or 3, the mode of the Universal Inputs 1 to 30 will be set as described in following table (differences highlighted):

Universal Input	Profile 1	Profile 2	Profile 3
1	10K NTC Carel	10K NTC Carel	10K NTC Carel
2	10K NTC Carel	10K NTC Carel	10K NTC Carel
3	10K NTC Carel	10K NTC Carel	10K NTC Carel
4	10K NTC Carel	10K NTC Carel	10K NTC Carel
5	10K NTC Carel	10K NTC Carel	10K NTC Carel
6	10K NTC Carel	10K NTC Carel	10K NTC Carel
7	10K NTC Carel	10K NTC Carel	10K NTC Carel
8	10K NTC Carel	10K NTC Carel	10K NTC Carel
9	10K NTC Carel	10K NTC Carel	Dry Contact
10	Dry Contact	Dry Contact	Dry Contact
11	Dry Contact	Dry Contact	Dry Contact
12	Dry Contact	Dry Contact	Dry Contact
13	Dry Contact	Dry Contact	Dry Contact
14	Dry Contact	Dry Contact	Dry Contact
15	Dry Contact	Dry Contact	Dry Contact
16	Dry Contact	Dry Contact	Dry Contact
17	Dry Contact	Dry Contact	Dry Contact
18	4-20mA	4-20mA	Dry Contact
19	4-20mA	4-20mA	Dry Contact
20	4-20mA	4-20mA	4-20mA
21	4-20mA	4-20mA	4-20mA
22	4-20mA	4-20mA	4-20mA
23	4-20mA	4-20mA	4-20mA
24	4-20mA	4-20mA	4-20mA
25	4-20mA	4-20mA	4-20mA
26	4-20mA	4-20mA	4-20mA
27	4-20mA	4-20mA	4-20mA
28	4-20mA	4-20mA	4-20mA
29	4-20mA	4-20mA	4-20mA
30	4-20mA	4-20mA	4-20mA



Universal Input Reading

The Universal Input Reading configurations determine how the input value is interpreted. There are 11 Universal Input Readings available, divided into the following four categories:

- Voltage
- Current
- Dry Contact
- Thermistors

Configuration		Reading units	Reading Range	Analog Value
Voltage		Volts	0-10 V	Percent: 0 -100%
Current		Milliamperes	0-20 mA	Percent: 0 -100%
Dry Contact		No units	0-1	Percent: 0 -100%
Thermistors	10K type 3	Degree C or Degree F	-40-150 C or -40-302 F	Impedance: 0-806800 ohms
	10K Type 2			
	10K NTC Carel			
	20K Type6A1			
	30K Type6A1			
	BAPI 1K Ni			
	MAMAC TE703/ 4-Ni 1K Type 2			
	MAMAC TE703/ 4-Pt 1K Type 3			

Universal Input Mode Default Settings

The following are the default settings available according to the selected configuration of the Universal Input:

Cfg UI.x Mode (Reg. # for UI1: 112/40113)	Cfg UI.x Reading Bias (113/40114)	Cfg UI.x Linear Value Scale (114/40115)	Cfg UI.x Min Voltage (115/40116)	Cfg UI.x Max Voltage (116/40117)	Cfg UI.x Min Linear Value (117/40118)	Cfg UI.x Max Linear Value (118/40119)	Cfg UI.x Linear Value Bias (119/40120)
1= "0-10V"	N/A	1	0	10000	0	100	0
2= "4-20mA"	N/A	1	0	20000	0	100	0
3= "Dry Contact"	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-8 = Thermistors/ 9-11 = RTD	0	N/A	N/A	N/A	N/A	N/A	N/A

Failsafe Mode

The Failsafe Mode is used to put the equipment into a safe mode when communication with the CMMB1020 fails.

- Each output can be configured to take a Preset value or the Last state value when the FailSafe mode is activated.
- When the FailSafe Timeout is set to 0, the Failsafe mode is deactivated.
- When set to a value from 1 to 65535 seconds, the FailSafe mode is enabled.
- When communication fails for that period, the FailSafe mode is activated, and the Outputs are set according to its Failsafe configuration.

Output Failsafe Configuration Options:

Output	FailSafe Mode	Fail Safe Preset
Analog Output X	Last State	--
	Preset	0V to 10V

Output	FailSafe Mode
Binary Output X	Last State
	Open
	Close



Configuration of Universal Outputs (UO1 to UO4)

The Universal Outputs (UO1 to UO4) can be configured to function either as analog outputs (AO5-AO8) or binary outputs (BO13-BO16) by using the JP3 to JP6 jumpers.

Universal Outputs	Analog/Binary Outputs	Action	Result
UO1 to UO4	AO5-AO8	Do not write on the bits BO13-BO16	It will interfere with the LED operation and the failsafe modes.
The failsafe presets for the unused/unrouted outputs (AO5 to AO8) in this case must be set to the value required for safe operation of the equipment.			
UO1 to UO4	BO13-BO16	Do not write on the registers for AO5-AO8.	It will interfere with the LED operation and the failsafe modes.
The failsafe presets for the unused/unrouted outputs (AO5 to AO8) in this case must be set to the value required for safe operation of the equipment.			

BACnet Implementation Features

Reset Controller through Network Interface

Reset the controller via BACnet using the **Reinitialize Device** service. The Reinitialize Device service can be accessed using the following password: **nep**.

The **Reinitialize Device** service has two types of reset such as:

- *Warm Reset.* The Warm Reset restarts the controller with actual configuration.
- *Cold Reset.* The Cold Reset restarts the controller with Factory configuration.

BACnet Proprietary Properties

The following table describes the Neptronic proprietary properties:

Proprietary Property Identifier	Name	Description
1000	Factory Gain Voltage	Set in production to calibrate the value to compensate for electronic components tolerance.
1001	Reading Bias	Set by the user to compensate the inaccuracies in reading.
1002	Factory Gain Current	Set in production to calibrate the value to compensate for electronic components tolerance.
1003	Pull-up Resistor	Set in production to calibrate the value to compensate for electronic components tolerance.
1004	Menu Text	Text used for the display.
1005	Absolute Minimum Present Value	Used by internal process to limit the minimal value the user can set for the Min_Pres_Value .
1006	Absolute Maximum Present Value	Used by internal process to limit the maximal value the user can set for the Max_Pres_Value .

Out_Of_Service Property

The Out_of_Service property is used during the maintenance, calibration, troubleshooting, or device replacement. Neptronic controllers support **Out_Of_Service** property for BACnet object types that support it.

If writable and set to **TRUE**, the property allows temporary decoupling of the object's normal operation within the system. This is mainly used for troubleshooting. It is recommended to set the property's value back to **FALSE** to put the object back to normal behavior. The **Out_Of_Service** is a volatile value and is not a permanent parameter. It will reset back to **FALSE** on a power cycle or a device reset command. However, the actual behavior change depends on target object type:

What is affected	Input (AI, BI, MSI)	Output (AO, BO, MSO)	Value (AV, BV, MSV)	Schedule
Present_Value	When decoupled from the physical input, does not track input changes.	When decoupled from the physical output, does not reflect the output state.	Prevents from being changed by local software.	When decoupled from the internal schedule calculations, does not track changes to other properties.



What is affected	Input (AI, BI, MSI)	Output (AO, BO, MSO)	Value (AV, BV, MSV)	Schedule
Reliability (if, present)	When decoupled from the physical input's reliability, does not reflect the actual fault status.	When decoupled from the physical output's reliability, does not reflect the actual fault status.	When decoupled from the local software reliability, does not reflect the actual fault status.	-
FAULT flag (Status_Flags)	Decoupled from the physical input's fault status.	Decoupled from the physical output's fault status.	Decoupled from the output's fault status.	-
Manual Override	Present_Value and Reliability can be manually written for simulation/testing.	Present_Value and Reliability can be manually written for simulation/testing.	Present_Value and Reliability can be manually set for simulation/testing.	Present_Value can be manually written for simulation/testing, ignoring the internal schedule logic.
Functions dependent on Present_Value or Reliability	Replicates the behaviour of the physical input in service.	Replicates the behaviour of the physical output in service.	Replicates the behaviour of the value in service.	Functions such as List_Of_Object_Property_References) will respond to manual changes such as the values that come from internal calculations.
Priority_Array and Relinquish_Default (if present)	-	Present_Value still controlled by BACnet command prioritization mechanism.	Present_Value still controlled by BACnet command prioritization mechanism.	-

Impact of Configuration on Objects' Status

The use of specific BACnet objects in the process may vary based on device configuration. For example, if the device has an External temperature sensor object but no input is configured for it:

- The object will not be updated by the controller
- The object will not be used in the control process

Therefore, depending on the current system configuration, the device forces the unexploited object(s) status to a specified **Unused object** state. This state is detectable in "**Status_Flag**" property value where:

- **Overridden** and **Out_Of_Service** flags are set to 1 (True)
- The value of the **Present_Value** property goes back to 0

The main goal is for the user to be able to determine that the following are evaluated in the current device control setup:

- Configuration
- Readings
- Control result object

Commandable Objects

The TRUB device supports the Command Prioritization BACnet procedure on output objects and selected value objects. Refer to ASHRAE 135 clause 19.2, at <https://www.ashrae.org/> for more information.

The Commandable objects also provide **Priority-Array** and **Relinquish-Default** properties.

See column "**C**?" to identify the object that is commandable.

See column "**W**?" to identify the object that has a writable Relinquish-Default property.



Minimum On Time and Minimum Off Time management

The **Minimum_On_Time** and **Minimum_Off_Time** properties define the minimum amount of time a particular state should be locked before the value can be changed.

They are available in Binary Outputs commandable objects, and a few select Binary Value objects.

Parameter (Property)	Description
Minimum On Time	Minimum time a signal should stay Active (1) when the transition from Inactive (0) to Active (1) occurs.
Minimum Off Time	Minimum time a signal should stay Inactive (0) when the transition from Active (1) to Inactive (0) occurs.

Refer to ASHRAE 135 Annex I for commandable objects with minimum on and off times at <https://www.ashrae.org/>.

Date and Time Synchronization

The TRUB device tracks the date and time and supports both BACnet synchronization services. Note that these services do not configure the UTC Offset and Daylight Savings Status properties.

BACnet Service	Description
Time Synchronization	Synchronization target device with current local date time.
UTC Time Synchronization	Synchronization target device with current Universal Time Coordinated (UTC) date time.
Device Property	Description
Local Date	Indicate the date to the best of the device's knowledge.
Local Time	Indicate the time of day to the best of the device's knowledge.
UTC Offset	Indicate the number of minutes (-1440 to +1440) offset between local standard time and Universal Time Coordinated.
Daylight Savings Status	Indicate whether daylight savings time is in effect (TRUE) or not (FALSE) at the BACnet device's location.

Network Port

The Network Port object of the BACnet standard allows you to configure device communications port settings such as consult and update parameters and status of the communication device using a single object through BACnet.

According to Revision 17 of the BACnet standard, every BACnet device must contain at least one **Network Port** object through which the device can be configured for communications.

The BACnet standard provides the following series of actions to configure a communication device through the **Network Port (NP)** object:

1. Change any device communication parameter through an NP object such as:
 - MAC Address
 - Max Master
 - Baudrate (Link Speed property)
 - Max Info Frame
2. Once the values are updated, set the **Change Pending** property value present in the corresponding NP object to **TRUE**.

This indicates that the device received new communication configurations in its database, but the configurations have not been applied to the **physical peripheral** yet.
3. Apply the new configuration to the communication port by initiating the **Reinitialize Device** service request with the **Reinitialized State of Device** parameter such as:
 - Activate Changes
 - Warmstart



MS/TP Extended Frames

The **Extended Length MS/TP Frames** (Extended Frames) option allows for large payloads **up to 1497 octets** (equivalent to ethernet-sized frame). This enhances the ability to transmit more data within a single frame.

This option was introduced in **ASHRAE BACnet Standard Addendum 135-2012** to address the limitations of the standard MS/TP frames, increase the efficiency of data exchange, and support additional control functionalities.



Note: The MS/TP Extended Frames is not enabled on the TRUB, by default.

The MS/TP Extended Frame is not enabled by default on the TRUB for the following reasons:

- **Backward Compatibility:** Many of the existing BACnet MS/TP devices and networks use standard frames. Enabling extended frames by default could disrupt the communication with devices that do not support this feature, leading to network incompatibility issues.
- **Interoperability Concerns:** In mixed environments with devices from different manufacturers, not all devices may support extended frames. Ensuring compatibility across all devices is essential to maintain a stable network.
- **Conservative Approach:** The default settings often prioritize stability and widespread compatibility. Since standard frames are sufficient for many applications, they are used by default to minimize potential issues.

Enable MS/TP Extended Frames on TRUB

If you have a use case unique to your business requirement, enable the MS/TP Extended Frames option through the following ways:

From BACnet Client

1. Connect to the device through a BACnet Client capable of initiating the **Read Property** and **Write Property** requests.
2. Send the **Write Property** service request to set the Present Value of the MSTP Extended Frame Enable object (Multi State Value 50 object) to **Enabled (2)**.
The TRUB Device is now able to parse and process request frame length greater than the standard 501 octets MS/TP restriction.
3. To validate the settings, read the **APDU Length** property of the Network Port object (Network Port 1). The replied value should be **1476**.

From Programming Menu

1. Enter the device's Programming Mode.
2. Access the MSTP EXT FRAME ENABLE menu in the SETTINGS >> NETWORK section and set the parameter to ENA. Refer to the Specification and Installation Instructions manual.

This will enable the MS/TP Extended Frames feature on the TRUB.



Device Configuration Backup/Restore

The **Reinitialize Device** feature of the Neptronic control devices performs the following:

- Generates a backup of all device configurations
- Reestablishes the previously backed-up configurations

The Firmware Update feature is also available through the Reinitialize Device.

Available configuration file list

The control products have the following three configuration files. The following are the different functionalities that are used for different purposes.

The device supports native BACnet Backup and Restore procedures.

- Using the backup procedure:
 - Download the device user config file and/or
 - Clone the image file
- Using the restore procedure:
 - Upload the user config file or clone image file to configure the device
 - Upload the firmware update file to update the device firmware

Each of the files has a specific scope and purpose:

User Config File

- Contains the copy of all user configurations applied to the device up until the moment it was generated.
- Does not contain network configuration and identification to maintain a reliable device communication through the process.
- Can be used as a general custom configuration file to apply to multiple devices.
- Can be stored as an application configuration backup.

Clone Image File

- Contains the whole configuration of the device, including factory parameters that are not accessible to the user.
- Contains network configuration and identification.
- Can be used to clone newly faulty device on its replacement.
- Can be stored as a specific device clone backup.

Firmware Update File

- This file can only be uploaded to the device to enable updating device to a new firmware revision.

Based on the type of configuration file, the following are available:

Configuration Type	User Config File	Clone Image File
User	Included	Included
Factory	Not included	Included
Network	Not included	Included

Backup and Copy Device Configuration

The Backup property generates a copy of the device configuration that can be used to replicate the same parameters in any other device.

To back up a device's configuration by any tool, the following properties supporting at least the following BACnet services should be available:

- **Read Property**
- **Reinitialize Device**
- **Atomic Read File**

1. Get and note the **Backup Preparation Time** property value in Device object using the **Read Property** service.



2. Initiate a **Reinitialize Device** request to start the backup procedure using the following values:
 - Reinitialized state of device = **START BACKUP**
 - Password = **nep**
3. Check the **Backup And Restore State** property value in DEVICE object after the **Backup Preparation Time** delay has elapsed. The device should show **Performing a backup** (value 3) status.
4. Display the object list a second time. The configuration files should now be available (FILE.1, FILE.2, FILE.3).
5. Download the **User Configuration** and **Clone Image** file located at FILE.2 and FILE.3 objects respectively using the **Atomic Read File** service.
6. Once the downloads are complete, send **Reinitialize Device** request with the following details to exit the backup and go back to normal **Idle** state:
 - Reinitialized state of device = **END BACKUP**
 - Password = **nep**
7. (Optional) To validate that the device is not in **Performing a backup** state anymore and is back to normal operation, check the **Backup And Restore State** property value in DEVICE object using the **Read Property** service. It should be **Idle** (value 0).

Note: The Backup state comes with a timer. This timer is used to determine when the device should exit state (abort process) if no backup related request has been received for a defined period.



*The defined timeout value can be found by reading the **Backup Failure Timeout** property value of the DEVICE object.*

*The configuration update applied to the device during the **Performing a backup** state will not be saved in the generated backup file. Please validate that all configurations are accurate before starting the procedure.*

Applying Backup Configuration to Device

To update the firmware product or device configuration with an existing copy provided by the user, perform a **Restore** procedure. You can do this by any tool that supports at least the following BACnet services:

- Read Property
 - Write Property
 - Reinitialize Device
 - Atomic Write File
1. Get and note the **Restore Preparation Time** and **Restore Completion Time** properties value in the DEVICE object using the “**Read Property**” service.
 2. Initiate a **Reinitialize Device** request to start the backup procedure using the following values:
 - Reinitialized state of device = **START RESTORE**
 - Password = **nep**
 3. Check the **Backup And Restore State** property value in DEVICE object after the **Restore Preparation Time** delay has elapsed. The device should show **Performing a restore** (value 4) status.
 4. Display the object list a second time. The configuration files should now be available (FILE.1, FILE.2, FILE.3).
 5. Update the following properties of **User Configuration** object (FILE.2) if you have used the user configuration file for backing up the device with **Write Property** service:
 - File Size property = 0
 - Read Only and Archive properties = False
 6. Upload the user configuration file to FILE.2 object using the **Atomic Write File** service.
 7. Update the following properties of **Clone Image** object (FILE.3) if you have used the clone image file for backing up the device with **Write Property** service:
 - File Size property = 0
 - Read Only and Archive properties = False
 8. Upload the clone image file to FILE.3 object using the **Atomic Write File** service.



9. Once the upload(s) is complete, send a **Reinitialize Device** request for restore process to apply the received configuration with the following details:
 - Reinitialized state of device = **END RESTORE**
 - Password = **nep**Wait for the **Restore Completion Time** delay to elapse. Note that the device will restart during this time.
10. After the delay has been elapsed, verify that the restore has been successful.
11. Check the **"Backup And Restore State"** property value in DEVICE object using **"Read Property"** service. It should be **"Idle"** (value 0).



Note: The Restore state comes with a timer. This timer is used to determine when the device should exit state (abort process) if no backup related request has been received for a defined period.

*The defined timeout value can be found by reading the **Backup Failure Timeout** property value of the DEVICE object.*

Object Table Information

The CMMB1020 uses the following BACnet object tables, categorized based on their ID. The type is the BACnet Object type, the instance is the BACnet Object. Together, the type and instance form the **BACnet Object_Identifier** for an object according to the following C-language algorithm:

- object_identifier= (unsigned long)((unsigned long)type<<22)+instance**

The ID is equal to ObjectType.Instance.

The “**W?**” column indicates writable properties of the enumerated object using the BACnet **WriteProperty** service.

The “**C?**” column indicates if the object is **Commandable**.

Analog Input (AI)

ID	Name	Description	C?	W?	Notes
AI.1	UI1 Reading	Universal input 1 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 212°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1
AI.2	UI2 Reading	Universal input 2 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 212°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1
AI.3	UI3 Reading	Universal input 3 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 212°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1
AI.4	UI4 Reading	Universal input 4 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 212°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1
AI.5	UI5 Reading	Universal input 5 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 302°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1

ID	Name	Description	C?	W?	Notes
AI.6	UI6 Reading	Universal input 6 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 212°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1
AI.7	UI7 Reading	Universal input 7 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 212°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1
AI.8	UI8 Reading	Universal input 8 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 212°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1
AI.9	UI9 Reading	Universal input 9 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 212°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1
AI.10	UI10 Reading	Universal input 10 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 212°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1
AI.11	UI11 Reading	Universal input 11 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 212°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1
AI.12	UI12 Reading	Universal input 12 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 212°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1
AI.13	UI13 Reading	Universal input 13 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 212°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1

ID	Name	Description	C?	W?	Notes
AI.14	UI14 Reading	Universal input 14 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 212°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1
AI.15	UI15 Reading	Universal input 15 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 212°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1
AI.16	UI16 Reading	Universal input 16 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 212°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1
AI.17	UI17 Reading	Universal input 17 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 212°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1
AI.18	UI18 Reading	Universal input 18 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 212°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1
AI.19	UI19 Reading	Universal input 19 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 212°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1
AI.20	UI20 Reading	Universal input 20 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 212°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1
AI.21	UI21 Reading	Universal input 21 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 212°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1

ID	Name	Description	C?	W?	Notes
AI.22	UI22 Reading	Universal input 22 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 212°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1
AI.23	UI23 Reading	Universal input 23 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 212°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1
AI.24	UI24 Reading	Universal input 24 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 212°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1
AI.25	UI25 Reading	Universal input 25 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 212°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1
AI.26	UI26 Reading	Universal input 26 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 212°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1
AI.27	UI27 Reading	Universal input 27 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 212°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1
AI.28	UI28 Reading	Universal input 28 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 212°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1
AI.29	UI29 Reading	Universal input 29 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 212°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1

ID	Name	Description	C?	W?	Notes
AI.30	UI30 Reading	Universal input 30 Reading. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ³ = For objects AI.x, Reading Bias is writable only for thermistor/RTD values. ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name Out_of_service COV Increment Min Pres Value ⁶ Max Pres Value ⁶ Reading Bias ^{2,3}	0 to 10Volt or -40 to 150°C or -40 to 212°F or 0 to 20mA or 0 to 1 Resolution: 0.001Volt or 0.01°C/0.02°F or 0.001mA or 1

Analog Output (AO)

ID	Name	Description	C?	W?	Notes
AO.1	AO1 Voltage	Voltage of analog output 1.	Y	Object Name Out_of_service Present Value Relinquish Default COV Increment	0 to 10 Volt Resolution 0.001 Volt
AO.2	AO2 Voltage	Voltage of analog output 2.	Y	Object Name Out_of_service Present Value Relinquish Default COV Increment	0 to 10 Volt Resolution 0.001 Volt
AO.3	AO3 Voltage	Voltage of analog output 3.	Y	Object Name Out_of_service Present Value Relinquish Default COV Increment	0 to 10 Volt Resolution 0.001 Volt
AO.4	AO4 Voltage	Voltage of analog output 4.	Y	Object Name Out_of_service Present Value Relinquish Default COV Increment	0 to 10 Volt Resolution 0.001 Volt
AO.5	AO5 Voltage ⁴	Voltage of analog output 5. ⁴ = Only available when JP3 - JP6 jumpers (UO1 - UO4 selector) are set to AO5 - AO8.	Y	Object Name Out_of_service Present Value Relinquish Default COV Increment	0 to 10 Volt Resolution 0.001 Volt
AO.6	AO6 Voltage ⁴	Voltage of analog output 6. ⁴ = Only available when JP3 - JP6 jumpers (UO1 - UO4 selector) are set to AO5 - AO8.	Y	Object Name Out_of_service Present Value Relinquish Default COV Increment	0 to 10 Volt Resolution 0.001 Volt
AO.7	AO7 Voltage ⁴	Voltage of analog output 7. ⁴ = Only available when JP3 - JP6 jumpers (UO1 - UO4 selector) are set to AO5 - AO8.	Y	Object Name Out_of_service Present Value Relinquish Default COV Increment	0 to 10 Volt Resolution 0.001 Volt

ID	Name	Description	C?	W?	Notes
AO.8	AO8 Voltage ⁴	Voltage of analog output 8. ⁴ = Only available when JP3 - JP6 jumpers (UO1 - UO4 selector) are set to AO5 - AO8.	Y	Object Name Out_of_service Present Value Relinquish Default COV Increment	0 to 10 Volt Resolution 0.001 Volt

Analog Value (AV)

ID	Name	Description	C?	W?	Notes
AV.1	UI1 Impedance	Universal Input 1 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm
AV.2	UI2 Impedance	Universal Input 2 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm
AV.3	UI3 Impedance	Universal Input 3 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm
AV.4	UI4 Impedance	Universal Input 4 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm
AV.5	UI5 Impedance	Universal Input 5 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm

ID	Name	Description	C?	W?	Notes
AV.6	UI6 Impedance	Universal Input 6 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm
AV.7	UI7 Impedance	Universal Input 7 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm
AV.8	UI8 Impedance	Universal Input 8 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm
AV.9	UI9 Impedance	Universal Input 9 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm
AV.10	UI10 Impedance	Universal Input 10 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm
AV.11	UI11 Impedance	Universal Input 11 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm

ID	Name	Description	C?	W?	Notes
AV.12	UI12 Impedance	Universal Input 12 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm
AV.13	UI13 Impedance	Universal Input 13 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm
AV.14	UI14 Impedance	Universal Input 14 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm
AV.15	UI15 Impedance	Universal Input 15 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm
AV.16	UI16 Impedance	Universal Input 16 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm
AV.17	UI17 Impedance	Universal Input 17 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm

ID	Name	Description	C?	W?	Notes
AV.18	UI18 Impedance	Universal Input 18 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm
AV.19	UI19 Impedance	Universal Input 19 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm
AV.20	UI20 Impedance	Universal Input 20 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm
AV.21	UI21 Impedance	Universal Input 21 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm
AV.22	UI22 Impedance	Universal Input 22 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm
AV.23	UI23 Impedance	Universal Input 23 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm

ID	Name	Description	C?	W?	Notes
AV.24	UI24 Impedance	Universal Input 24 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm
AV.25	UI25 Impedance	Universal Input 25 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm
AV.26	UI26 Impedance	Universal Input 26 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm
AV.27	UI27 Impedance	Universal Input 27 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm
AV.28	UI28 Impedance	Universal Input 28 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm
AV.29	UI29 Impedance	Universal Input 29 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm

ID	Name	Description	C?	W?	Notes
AV.30	UI30 Impedance	Universal Input 30 Impedance. ² = The Reading Bias property is a Neptronic proprietary property (Property #1001). ⁶ = Only writable if set to 0 to 10Volt or 4 to 20mA.		Object Name ⁶ Out_of_service Min Pres Value ⁶ Max Pres Value ⁶ Resolution ⁶ COV Increment Units ⁶ Reading Bias ^{2 6}	0 to 100% (default) or 0 to 806800 ohms Resolution: 1% (default) or 1 ohm
AV.31	Cfg AO1 Failsafe Preset	Failsafe preset for analog output 1.		Out_of_service Present Value	0 to 10Volt Resolution: 0.001Volt
AV.32	Cfg AO2 Failsafe Preset	Failsafe preset for analog output 2.		Out_of_service Present Value	0 to 10Volt Resolution: 0.001Volt
AV.33	Cfg AO3 Failsafe Preset	Failsafe preset for analog output 3.		Out_of_service Present Value	0 to 10Volt Resolution: 0.001Volt
AV.34	Cfg AO4 Failsafe Preset	Failsafe preset for analog output 4.		Out_of_service Present Value	0 to 10Volt Resolution: 0.001Volt
AV.35	Cfg AO5 Failsafe Preset ⁴	Failsafe preset for analog output 5. ⁴ = Only available when JP3 - JP6 jumpers (UO1 - UO4 selector) are set to AO5 - AO8.		Out_of_service Present Value	0 to 10Volt Resolution: 0.001Volt
AV.36	Cfg AO6 Failsafe Preset ⁴	Failsafe preset for analog output 6. ⁴ = Only available when JP3 - JP6 jumpers (UO1 - UO4 selector) are set to AO5 - AO8.		Out_of_service Present Value	0 to 10Volt Resolution: 0.001Volt
AV.37	Cfg AO7 Failsafe Preset ⁴	Failsafe preset for analog output 7. ⁴ = Only available when JP3 - JP6 jumpers (UO1 - UO4 selector) are set to AO5 - AO8.		Out_of_service Present Value	0 to 10Volt Resolution: 0.001Volt
AV.38	Cfg AO8 Failsafe Preset ⁴	Failsafe preset for analog output 8. ⁴ = Only available when JP3 - JP6 jumpers (UO1 - UO4 selector) are set to AO5 - AO8.		Out_of_service Present Value	0 to 10Volt Resolution: 0.001Volt

Binary Output (BO)

ID	Name	Description	C?	W?	Notes
BO.1	BO1 State	Binary Output 1 State.	Y	Object Name Out_of_service Present Value Polarity Relinquish Default	0 = Open 1 = Closed
BO.2	BO2 State	Binary Output 2 State.	Y	Object Name Out_of_service Present Value Polarity Relinquish Default	0 = Open 1 = Closed
BO.3	BO3 State	Binary Output 3 State.	Y	Object Name Out_of_service Present Value Polarity Relinquish Default	0 = Open 1 = Closed
BO.4	BO4 State	Binary Output 4 State.	Y	Object Name Out_of_service Present Value Polarity Relinquish Default	0 = Open 1 = Closed
BO.5	BO5 State	Binary Output 5 State.	Y	Object Name Out_of_service Present Value Polarity Relinquish Default	0 = Open 1 = Closed
BO.6	BO6 State	Binary Output 6 State.	Y	Object Name Out_of_service Present Value Polarity Relinquish Default	0 = Open 1 = Closed
BO.7	BO7 State	Binary Output 7 State.	Y	Object Name Out_of_service Present Value Polarity Relinquish Default	0 = Open 1 = Closed
BO.8	BO8 State	Binary Output 8 State.	Y	Object Name Out_of_service Present Value Polarity Relinquish Default	0 = Open 1 = Closed
BO.9	BO9 State	Binary Output 9 State.	Y	Object Name Out_of_service Present Value Polarity Relinquish Default	0 = Open 1 = Closed

ID	Name	Description	C?	W?	Notes
BO.10	BO10 State	Binary Output 10 State.	Y	Object Name Out_of_service Present Value Polarity Relinquish Default	0 = Open 1 = Closed
BO.11	BO11 State	Binary Output 11 State.	Y	Object Name Out_of_service Present Value Polarity Relinquish Default	0 = Open 1 = Closed
BO.12	BO12 State	Binary Output 12 State.	Y	Object Name Out_of_service Present Value Polarity Relinquish Default	0 = Open 1 = Closed
BO.13	BO13 State ⁵	Binary Output 13 State. ⁵ = Only available when JP3 - JP6 jumpers (UO1 - UO4 selector) are set to BO13 - BO16.	Y	Object Name Out_of_service Present Value Polarity Relinquish Default	0 = Open 1 = Closed
BO.14	BO14 State ⁵	Binary Output 14 State. ⁵ = Only available when JP3 - JP6 jumpers (UO1 - UO4 selector) are set to BO13 - BO16.	Y	Object Name Out_of_service Present Value Polarity Relinquish Default	0 = Open 1 = Closed
BO.15	BO15 State ⁵	Binary Output 15 State. ⁵ = Only available when JP3 - JP6 jumpers (UO1 - UO4 selector) are set to BO13 - BO16.	Y	Object Name Out_of_service Present Value Polarity Relinquish Default	0 = Open 1 = Closed
BO.16	BO16 State ⁵	Binary Output 16 State. ⁵ = Only available when JP3 - JP6 jumpers (UO1 - UO4 selector) are set to BO13 - BO16.	Y	Object Name Out_of_service Present Value Polarity Relinquish Default	0 = Open 1 = Closed

Multi State Value (MSV)

ID	Name	Description	C?	W?	Notes
MSV.1	Cfg UI1 Mode	Select universal input 1 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3
MSV.2	Cfg UI2 Mode	Select universal input 2 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3
MSV.3	Cfg UI3 Mode	Select universal input 3 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3
MSV.4	Cfg UI4 Mode	Select universal input 4 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3

ID	Name	Description	C?	W?	Notes
MSV.5	Cfg UI5 Mode	Select universal input 5 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3
MSV.6	Cfg UI6 Mode	Select universal input 6 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3
MSV.7	Cfg UI7 Mode	Select universal input 7 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3
MSV.8	Cfg UI8 Mode	Select universal input 8 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3

ID	Name	Description	C?	W?	Notes
MSV.9	Cfg UI9 Mode	Select universal input 9 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3
MSV.10	Cfg UI10 Mode	Select universal input 10 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3
MSV.11	Cfg UI11 Mode	Select universal input 11 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3
MSV.12	Cfg UI12 Mode	Select universal input 12 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3

ID	Name	Description	C?	W?	Notes
MSV.13	Cfg UI13 Mode	Select universal input 13 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3
MSV.14	Cfg UI14 Mode	Select universal input 14 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3
MSV.15	Cfg UI15 Mode	Select universal input 15 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3
MSV.16	Cfg UI16 Mode	Select universal input 16 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3

ID	Name	Description	C?	W?	Notes
MSV.17	Cfg UI17 Mode	Select universal input 17 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3
MSV.18	Cfg UI18 Mode	Select universal input 18 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3
MSV.19	Cfg UI19 Mode	Select universal input 19 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3
MSV.20	Cfg UI20 Mode	Select universal input 20 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3

ID	Name	Description	C?	W?	Notes
MSV.21	Cfg UI21 Mode	Select universal input 21 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3
MSV.22	Cfg UI22 Mode	Select universal input 22 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3
MSV.23	Cfg UI23 Mode	Select universal input 23 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3
MSV.24	Cfg UI24 Mode	Select universal input 24 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3

ID	Name	Description	C?	W?	Notes
MSV.25	Cfg UI25 Mode	Select universal input 25 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3
MSV.26	Cfg UI26 Mode	Select universal input 26 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3
MSV.27	Cfg UI27 Mode	Select universal input 27 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3
MSV.28	Cfg UI28 Mode	Select universal input 28 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3

ID	Name	Description	C?	W?	Notes
MSV.29	Cfg UI29 Mode	Select universal input 29 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K _ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3
MSV.30	Cfg UI30 Mode	Select universal input 30 mode.		Out_of_service Present Value	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K _ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3
MSV.31	Cfg AO1 Failsafe Mode	Selected analog output 1 failsafe mode.		Out_of_service Present Value	1= Last State 2= Preset
MSV.32	Cfg AO2 Failsafe Mode	Selected analog output 2 failsafe mode.		Out_of_service Present Value	1= Last State 2= Preset
MSV.33	Cfg AO3 Failsafe Mode	Selected analog output 3 failsafe mode.		Out_of_service Present Value	1= Last State 2= Preset
MSV.34	Cfg AO4 Failsafe Mode	Selected analog output 4 failsafe mode.		Out_of_service Present Value	1= Last State 2= Preset
MSV.35	Cfg AO5 Failsafe Mode ⁴	Selected analog output 5 failsafe mode. ⁴ = Only available when JP3 - JP6 jumpers (UO1 - UO4 selector) are set to AO5 - AO8.		Out_of_service Present Value	1= Last State 2= Preset
MSV.36	Cfg AO6 Failsafe Mode ⁴	Selected analog output 6 failsafe mode. ⁴ = Only available when JP3 - JP6 jumpers (UO1 - UO4 selector) are set to AO5 - AO8.		Out_of_service Present Value	1= Last State 2= Preset
MSV.37	Cfg AO7 Failsafe Mode ⁴	Selected analog output 7 failsafe mode. ⁴ = Only available when JP3 - JP6 jumpers (UO1 - UO4 selector) are set to AO5 - AO8.		Out_of_service Present Value	1= Last State 2= Preset
MSV.38	Cfg AO8 Failsafe Mode ⁴	Selected analog output 8 failsafe mode. ⁴ = Only available when JP3 - JP6 jumpers (UO1 - UO4 selector) are set to AO5 - AO8.		Out_of_service Present Value	1= Last State 2= Preset
MSV.39	Cfg BO1 Failsafe Mode	Selected binary output 1 failsafe mode.		Out_of_service Present Value	1= Last State 2= Open 3= Closed
MSV.40	Cfg BO2 Failsafe Mode	Selected binary output 2 failsafe mode.		Out_of_service Present Value	1= Last State 2= Open 3= Closed
MSV.41	Cfg BO3 Failsafe Mode	Selected binary output 3 failsafe mode.		Out_of_service Present Value	1= Last State 2= Open 3= Closed

ID	Name	Description	C?	W?	Notes
MSV.42	Cfg BO4 Failsafe Mode	Selected binary output 4 failsafe mode.		Out_of_service Present Value	1= Last State 2= Open 3= Closed
MSV.43	Cfg BO5 Failsafe Mode	Selected binary output 5 failsafe mode.		Out_of_service Present Value	1= Last State 2= Open 3= Closed
MSV.44	Cfg BO6 Failsafe Mode	Selected binary output 6 failsafe mode.		Out_of_service Present Value	1= Last State 2= Open 3= Closed
MSV.45	Cfg BO7 Failsafe Mode	Selected binary output 7 failsafe mode.		Out_of_service Present Value	1= Last State 2= Open 3= Closed
MSV.46	Cfg BO8 Failsafe Mode	Selected binary output 8 failsafe mode.		Out_of_service Present Value	1= Last State 2= Open 3= Closed
MSV.47	Cfg BO9 Failsafe Mode	Selected binary output 9 failsafe mode.		Out_of_service Present Value	1= Last State 2= Open 3= Closed
MSV.48	Cfg BO10 Failsafe Mode	Selected binary output 10 failsafe mode.		Out_of_service Present Value	1= Last State 2= Open 3= Closed
MSV.49	Cfg BO11 Failsafe Mode	Selected binary output 11 failsafe mode.		Out_of_service Present Value	1= Last State 2= Open 3= Closed
MSV.50	Cfg BO12 Failsafe Mode	Selected binary output 12 failsafe mode.		Out_of_service Present Value	1= Last State 2= Open 3= Closed
MSV.51	Cfg BO13 Failsafe Mode ⁵	Selected binary output 13 failsafe mode. ⁵ = Only available when JP3 - JP6 jumpers (UO1 - UO4 selector) are set to BO13 - BO16.		Out_of_service Present Value	1= Last State 2= Open 3= Closed
MSV.52	Cfg BO14 Failsafe Mode ⁵	Selected binary output 14 failsafe mode. ⁵ = Only available when JP3 - JP6 jumpers (UO1 - UO4 selector) are set to BO13 - BO16.		Out_of_service Present Value	1= Last State 2= Open 3= Closed
MSV.53	Cfg BO15 Failsafe Mode ⁵	Selected binary output 15 failsafe mode. ⁵ = Only available when JP3 - JP6 jumpers (UO1 - UO4 selector) are set to BO13 - BO16.		Out_of_service Present Value	1= Last State 2= Open 3= Closed
MSV.54	Cfg BO16 Failsafe Mode ⁵	Selected binary output 16 failsafe mode. ⁵ = Only available when JP3 - JP6 jumpers (UO1 - UO4 selector) are set to BO13 - BO16.		Out_of_service Present Value	1= Last State 2= Open 3= Closed
MSV.59	Cfg Temperature Units	Select the unit system to use on the device.		Present Value	1= Celsius 2= Fahrenheit
MSV.60	MSTP Extended Frame Enable	Select whether to enable or disable the MSTP extended frame enable.		Present Value	1= Disabled 2= Enabled

Other

ID	Name	Description	C?	W?	Notes
PIV.1	Cfg Failsafe Timeout	Set failsafe timeout value.		Present value	0 = Failsafe disabled 1-600 = Failsafe timeout in seconds
PR.1	Device Task			Out_of_service	
FIL.1	Firmware Update	Firmware update file.		File Size Archive Read Only	File size is accepted for 0 value only.
FIL.2	Backup User Configuration	Backup User Configuration file.		File Size	File size is accepted for 0 value only.
FIL.3	Backup Clone Image	Backup Clone Image file.		File Size	File size is accepted for 0 value only.
NP.1	User Port	User port network configuration.		Out_of_service MAC Address Max Master Max Info Frames	-
NP.2	Service Port	Service port network configuration.		Out_of_service MAC Address Max Master Max Info Frames	
SV.1	Structured View Analog Inputs	List of all Analog Inputs Structured Views.			SV.5, SV.6, SV.7, SV.8, SV.9, SV.10, SV.11, SV.12, SV.13, SV.14, SV.15, SV.16, SV.17, SV.18, SV.19, SV.20, SV.21, SV.22, SV.23, SV.24, SV.25, SV.26, SV.27, SV.28, SV.29, SV.30, SV.31, SV.32, SV.33, SV.34
SV.2	Structured View Analog Outputs	List of all Analog Outputs Structured Views.			SV.35, SV.36, SV.37, SV.38, SV.39, SV.40, SV.41, SV.42
SV.3	Structured View Binary Outputs	List of all Binary Outputs Structured Views.			SV.43, SV.44, SV.45, SV.46, SV.47, SV.48, SV.49, SV.50, SV.51, SV.52, SV.53, SV.54, SV.55, SV.56, SV.57, SV.58
SV.4	Structured View Device Config	Device Configuration related objects.			PIV.1, MSV.0, MSV.59, MSV.60
SV.5	Structured View Input_1	Input reading 1 related objects.			AI.1, MSV.2, AV.1
SV.6	Structured View Input_2	Input reading 2 related objects.			AI.2, MSV.3, AV.2
SV.7	Structured View Input_3	Input reading 3 related objects.			AI.3, MSV.4, AV.3
SV.8	Structured View Input_4	Input reading 4 related objects.			AI.4, MSV.5, AV.4

ID	Name	Description	C?	W?	Notes
SV.9	Structured View Input_5	Input reading 5 related objects.			AI.5, MSV.6, AV.5
SV.10	Structured View Input_6	Input reading 6 related objects.			AI.6, MSV.7, AV.6
SV.11	Structured View Input_7	Input reading 7 related objects.			AI.7, MSV.8, AV.7
SV.13	Structured View Input_9	Input reading 9 related objects.			AI.9, MSV.10, AV.9
SV.14	Structured View Input_10	Input reading 10 related objects.			AI.10, MSV.11, AV.10
SV.15	Structured View Input_11	Input reading 11 related objects.			AI.11, MSV.12, AV.11
SV.16	Structured View Input_12	Input reading 12 related objects.			AI.12, MSV.13, AV.12
SV.17	Structured View Input_13	Input reading 13 related objects.			AI.13, MSV.12, AV.13
SV.18	Structured View Input_14	Input reading 14 related objects.			AI.14, MSV.15, AV.14
SV.19	Structured View Input_15	Input reading 15 related objects.			AI.15, MSV.16, AV.15
SV.20	Structured View Input_16	Input reading 16 related objects.			AI.16, MSV.17, AV.16
SV.21	Structured View Input_17	Input reading 17 related objects.			AI.17, MSV.18, AV.17
SV.22	Structured View Input_18	Input reading 18 related objects.			AI.18, MSV.19, AV.18
SV.23	Structured View Input_19	Input reading 19 related objects.			AI.19, MSV.20, AV.19
SV.24	Structured View Input_20	Input reading 20 related objects.			AI.20, MSV.21, AV.20
SV.25	Structured View Input_21	Input reading 21 related objects.			AI.21, MSV.22, AV.21
SV.26	Structured View Input_22	Input reading 22 related objects.			AI.22, MSV.23, AV.22
SV.27	Structured View Input_23	Input reading 23 related objects.			AI.23, MSV.24, AV.23
SV.28	Structured View Input_24	Input reading 24 related objects.			AI.24, MSV.25, AV.24
SV.29	Structured View Input_25	Input reading 25 related objects.			AI.25, MSV.26, AV.25

ID	Name	Description	C?	W?	Notes
SV.30	Structured View Input_26	Input reading 26 related objects.			AI.26, MSV.27, AV.26
SV.31	Structured View Input_27	Input reading 27 related objects.			AI.27, MSV.28, AV.27
SV.32	Structured View Input_28	Input reading 28 related objects.			AI.28, MSV.29, AV.28
SV.33	Structured View Input_29	Input reading 29 related objects.			AI.29, MSV.30, AV.29
SV.34	Structured View Input_30	Input reading 30 related objects.			AI.30, MSV.31, AV.30
SV.35	Structured View Analog Output_1	Analog output 1 related objects.			AO.1, MSV.32, AV.31
SV.36	Structured View Analog Output_2	Analog output 2 related objects.			AO.2, MSV.33, AV.32
SV.37	Structured View Analog Output_3	Analog output 3 related objects.			AO.3, MSV.34, AV.33
SV.38	Structured View Analog Output_4	Analog output 4 related objects.			AO.4, MSV.35, AV.34
SV.39	Structured View Analog Output_5	Analog output 5 related objects.			AO.5, MSV.36, AV.35
SV.40	Structured View Analog Output_6	Analog output 6 related objects.			AO.6, MSV.37, AV.36
SV.41	Structured View Analog Output_7	Analog output 7 related objects.			AO.7, MSV.38, AV.37
SV.42	Structured View Analog Output_8	Analog output 8 related objects.			AO.8, MSV.39, AV.38
SV.43	Structured View Binary Output_1	Binary output 1 related objects.			BO.1, MSV.40
SV.44	Structured View Binary Output_2	Binary output 2 related objects.			BO.2, MSV.41
SV.45	Structured View Binary Output_3	Binary output 3 related objects.			BO.3, MSV.42
SV.46	Structured View Binary Output_4	Binary output 4 related objects.			BO.4, MSV.43
SV.47	Structured View Binary Output_5	Binary output 5 related objects.			BO.5, MSV.44
SV.48	Structured View Binary Output_6	Binary output 6 related objects.			BO.6, MSV.45
SV.49	Structured View Binary Output_7	Binary output 7 related objects.			BO.7, MSV.46

ID	Name	Description	C?	W?	Notes
SV.50	Structured View Binary Output_8	Binary output 8 related objects.			BO.8, MSV.47
SV.51	Structured View Binary Output_9	Binary output 9 related objects.			BO.9, MSV.48
SV.52	Structured View Binary Output_10	Binary output 10 related objects.			BO.10, MSV.49
SV.53	Structured View Binary Output_11	Binary output 11 related objects.			BO.11, MSV.50
SV.54	Structured View Binary Output_12	Binary output 12 related objects.			BO.12, MSV.51
SV.55	Structured View Binary Output_13	Binary output 13 related objects.			BO.13, MSV.52
SV.56	Structured View Binary Output_14	Binary output 14 related objects.			BO.14, MSV.53
SV.57	Structured View Binary Output_15	Binary output 15 related objects.			BO.15, MSV.54
SV.58	Structured View Binary Output_16	Binary output 16 related objects.			BO.16, MSV.55

Modbus Implementation

Universal Inputs Register Usage

Voltage/Current Mode

- When UI1 is configured as 0-10VDC or 4-20mA, the raw voltage/current value is seen on register 40012 (Universal Input 1 Reading).
- The value seen in register 40051 (Universal Input 1 Impedance or Linearization) will be based on the value that is entered by the user for registers 40118 (Universal Input 1 Minimum Linear Value) and 40119 (Universal Input 1 Maximum Linear Value).
- The register 40115 (Universal Input 1 Linear Value Scale) functions as scaling for the linearized value that you see for register 40051.
- The range of the sensor/input type (2-10V or 4-20mA) is set by registers 40116 (Universal Input 1 Minimum Voltage) and 40117 (Universal Input 1 Maximum Voltage) and the linearized value is read on register 40051.
- The register 40120 (Universal Input 1 Linear Value Bias) adds a bias to the value read on register 40051.
- The same is applicable for UI2 to UI30 with the registers corresponding to minimum and maximum voltage and/or linear values.

Thermistor Mode/RTD Mode

- When UI1 is configured as a temperature sensor, the raw resistance value is seen on register 40051 and the temperature value based on the type of sensor selected is available on register 40012.
- The user can perform calibration of the temperature value by adding a reading bias on register 40114. The value set here affects the reading on register 40012.
- The same is applicable for UI2 to UI30 with the registers corresponding to minimum and maximum voltage and/or linear values.

Modbus Registers

- Register address
 - As per protocol base (base 0); for PLC add 1 to protocol base.
 - As per holding register (base 40001)
- Functions:
 - 03 Read Holding Register
 - 06 Write Single Register
 - 16 Write Multiple Registers
- Error Codes:
 - 02 Illegal Data Address
 - 03 Illegal Value
 - 06 Slave Device Busy
- W = Writable register, RO = read only.
- No Real number in Modbus register, use scale to calculate real number. $\text{Register} = \text{Real number} * \text{Scale} \Rightarrow \text{Real number} = \text{Register} / \text{Scale}$. Scale could be 1, 10 or 100
- Attention when writing a register that contains a bit string. If bit is writable (conditional or not), the write will always be accepted. If bit is reserved or not writable, the write will be ignored and will keep its actual state.
- Use READ-MODIFY-WRITE sequence.

Protocol Address	Convention Notation	Description	Data Type	Units/Values	Writable	Default Value
0	40001	MAC Address	Unsigned Scale 1	[1 to 247] * MAC address is 1 if all DIP switches of DS1 are OFF.	W	101
1	40002	Firmware Version	Unsigned Scale 100	1.00	RO	
2	40003	Serial Number (characters 0 & 1)	ASCII	MSB = char 0, LSB = char 1	RO	
3	40004	Serial Number (characters 2 & 3)	ASCII	MSB = char 2, LSB = char 3	RO	
4	40005	Serial Number (characters 4 & 5)	ASCII	MSB = char 4, LSB = char 5	RO	
5	40006	Serial Number (characters 6 & 7)	ASCII	MSB = char 6, LSB = char 7	RO	
6	40007	Serial Number (characters 8 & 9)	ASCII	MSB = char 8, LSB = char 9	RO	
7	40008	Serial Number (characters 10 & 11)	ASCII	MSB = char 10, LSB = char 11	RO	
8	40009	Serial Number (characters 12 & 13)	ASCII	MSB = char 12, LSB = char 13	RO	
9	40010	Serial Number (characters 14 & 15)	ASCII	MSB = char 14, LSB = char 15	RO	
10	40011	System Status	Unsigned	0 = Operational 1 = Operational-read-only 2 = download-required 3 = download-in-progress 4 = non-operational 5 = backup-in-progress	RO	
11	40012	Universal Input 1 Reading	0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0-10Volt, 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0-20 mA 10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -40 - 150 °C Type: Signed, Scale:100, Unit: °F, Range: -40 - 212 °F DI: Type: Unsigned, Scale:1, No Unit, Range: 0-1	RO	0	
12	40013	Universal Input 2 Reading			0	
13	40014	Universal Input 3 Reading			0	
14	40015	Universal Input 4 Reading			0	
15	40016	Universal Input 5 Reading			0	
16	40017	Universal Input 6 Reading			0	
17	40018	Universal Input 7 Reading			0	
18	40019	Universal Input 8 Reading			0	
19	40020	Universal Input 9 Reading			0	
20	40021	Universal Input 10 Reading			0	
21	40022	Universal Input 11 Reading			0	
22	40023	Universal Input 12 Reading			0	
23	40024	Universal Input 13Reading			0	

Protocol Address	Convention Notation	Description	Data Type	Units/Values	Writable	Default Value
24	40025	Universal Input 14 Reading				0
25	40026	Universal Input 15 Reading				0
26	40027	Universal Input 16 Reading				0
27	40028	Universal Input 17 Reading				0
28	40029	Universal Input 18 Reading				0
29	40030	Universal Input 19 Reading				0
30	40031	Universal Input 20 Reading				0
31	40032	Universal Input 21 Reading				0
32	40033	Universal Input 22 Reading				0
33	40034	Universal Input 23 Reading				0
34	40035	Universal Input 24 Reading				0
35	40036	Universal Input 25 Reading				0
36	40037	Universal Input 26 Reading		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0-10Volt, 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0-20 mA 10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -40 - 150 °C Type: Signed, Scale:100, Unit: °F, Range: -40 - 212 °F DI: Type: Unsigned, Scale:1, No Unit, Range: 0-1	RO	0
37	40038	Universal Input 27 Reading				0
38	40039	Universal Input 28 Reading				0
39	40040	Universal Input 29 Reading				0
40	40041	Universal Input 30 Reading				0
41	40042	Analog Output 1 Voltage	Unsigned Scale 1000	Unit: Volt (V), Range: 0V to10V, <i>Value x 1000 (e.g. 2V = 2000)</i> <i>* AO5 to AO8 Voltage can only be commanded when JP3 - JP6 jumpers (UO1 - UO4 selector) are set to AO5 - AO8.</i>	W	0V
42	40043	Analog Output 2 Voltage				0V
43	40044	Analog Output 3 Voltage				0V
44	40045	Analog Output 4 Voltage				0V
45	40046	Analog Output 5 Voltage*				0V
46	40047	Analog Output 6 Voltage*				0V
47	40048	Analog Output 7 Voltage*				0V
48	40049	Analog Output 8 Voltage*				0V

Protocol Address	Convention Notation	Description	Data Type	Units/Values		Writable	Default Value	
49	40050	Binary Output States**	Bit String	B0: Binary Output 1 State 0 = Open, 1 = Closed B1: Binary Output 2 State 0 = Open, 1 = Closed B2: Binary Output 3 State 0 = Open, 1 = Closed B3: Binary Output 4 State 0 = Open, 1 = Closed B4: Binary Output 5 State 0 = Open, 1 = Closed B5: Binary Output 6 State 0 = Open, 1 = Closed B6: Binary Output 7 State 0 = Open, 1 = Closed B7: Binary Output 8 State 0 = Open, 1 = Closed B8: Binary Output 9 State 0 = Open, 1 = Closed B9: Binary Output 10 State 0 = Open, 1 = Closed B10: Binary Output 11 State 0 = Open, 1 = Closed B11: Binary Output 12 State 0 = Open, 1 = Closed B12: Binary Output 13 State** 0 = Open, 1 = Closed B13: Binary Output 14 State** 0 = Open, 1 = Closed B14: Binary Output 15 State** 0 = Open, 1 = Closed B15: Binary Output 16 State** 0 = Open, 1 = Closed ** B12 to B15 can only be commanded when JP3 - JP6 jumpers (UO1 - UO4 selector) are set to BO13 - BO16.		W	0	
50	40051	Universal Input 1 Impedance or Linearization (0)	0-10V, 4-20mA: Type: Unsigned, Scale: Depends on values in Linear Value Scale of corresponding UI Unit: %, Range: Depends on values in Minimum and Maximum Linear Value of the UI Thermistors/RTD - 10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Unsigned, Scale:1, Unit: Ohms, Range: 0-806800 Ohms				RO	N/A
51	40052	Universal Input 1 Impedance or Linearization (1)						N/A
52	40053	Universal Input 2 Impedance or Linearization (0)						N/A
53	40054	Universal Input 2 Impedance or Linearization (1)						N/A
54	40055	Universal Input 3 Impedance or Linearization (0)						N/A
55	40056	Universal Input 3 Impedance or Linearization (1)						N/A
56	40057	Universal Input 4 Impedance or Linearization (0)						N/A
57	40058	Universal Input 4 Impedance or Linearization (1)						N/A

Protocol Address	Convention Notation	Description	Data Type	Units/Values	Writable	Default Value
58	40059	Universal Input 5 Impedance or Linearization (0)				N/A
59	40060	Universal Input 5 Impedance or Linearization (1)				N/A
60	40061	Universal Input 6 Impedance or Linearization (0)				N/A
61	40062	Universal Input 6 Impedance or Linearization (1)	0-10V, 4-20mA: Type: Unsigned, Scale: Depends on values in Linear Value Scale of corresponding UI Unit: %, Range: Depends on values in Minimum and Maximum Linear Value of the UI Thermistors/RTD - 10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Unsigned, Scale:1, Unit: Ohms, Range: 0-806800 Ohms		RO	N/A
62	40063	Universal Input 7 Impedance or Linearization (0)				N/A
63	40064	Universal Input 7 Impedance or Linearization (1)				N/A
64	40065	Universal Input 8 Impedance or Linearization (0)				N/A
65	40066	Universal Input 8 Impedance or Linearization (1)				N/A
66	40067	Universal Input 9 Impedance or Linearization (0)				N/A
67	40068	Universal Input 9 Impedance or Linearization (1)				N/A
68	40069	Universal Input 10 Impedance or Linearization (0)				N/A
69	40070	Universal Input 10 Impedance or Linearization (1)				N/A
70	40071	Universal Input 11 Impedance or Linearization (0)				N/A
71	40072	Universal Input 11 Impedance or Linearization (1)				N/A
72	40073	Universal Input 12 Impedance or Linearization (0)				N/A
73	40074	Universal Input 12 Impedance or Linearization (1)				N/A
74	40075	Universal Input 13 Impedance or Linearization (0)				N/A
75	40076	Universal Input 13 Impedance or Linearization (1)				N/A
76	40077	Universal Input 14 Impedance or Linearization (0)				N/A
77	40078	Universal Input 14 Impedance or Linearization (1)				N/A
78	40079	Universal Input 15 Impedance or Linearization (0)				N/A

Protocol Address	Convention Notation	Description	Data Type	Units/Values	Writable	Default Value
79	40080	Universal Input 15 Impedance or Linearization (1)				N/A
80	40081	Universal Input 16 Impedance or Linearization (0)				N/A
81	40082	Universal Input 16 Impedance or Linearization (1)				N/A
82	40083	Universal Input 17 Impedance or Linearization (0)				N/A
83	40084	Universal Input 17 Impedance or Linearization (1)				N/A
84	40085	Universal Input 18 Impedance or Linearization (0)				N/A
85	40086	Universal Input 18 Impedance or Linearization (1)				N/A
86	40087	Universal Input 19 Impedance or Linearization (0)				N/A
87	40088	Universal Input 19 Impedance or Linearization (1)				N/A
88	40089	Universal Input 20 Impedance or Linearization (0)				N/A
89	40090	Universal Input 20 Impedance or Linearization (1)				N/A
90	40091	Universal Input 21 Impedance or Linearization (0)			RO	N/A
91	40092	Universal Input 21 Impedance or Linearization (1)				N/A
92	40093	Universal Input 22 Impedance or Linearization (0)				N/A
93	40094	Universal Input 22 Impedance or Linearization (1)				N/A
94	40095	Universal Input 23 Impedance or Linearization (0)				N/A
95	40096	Universal Input 23 Impedance or Linearization (1)				N/A
96	40097	Universal Input 24 Impedance or Linearization (0)				N/A
97	40098	Universal Input 24 Impedance or Linearization (1)				N/A
98	40099	Universal Input 25 Impedance or Linearization (0)				N/A
99	40100	Universal Input 25 Impedance or Linearization (1)				N/A

0-10V, 4-20mA:
 Type: Unsigned, Scale: Depends on values in Linear Value Scale of corresponding UI
 Unit: %, Range: Depends on values in Minimum and Maximum Linear Value of the UI

Thermistors/RTD - 10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3:
 Type: Unsigned, Scale:1, Unit: Ohms, Range: 0-806800 Ohms

Protocol Address	Convention Notation	Description	Data Type	Units/Values	Writable	Default Value	
100	40101	Universal Input 26 Impedance or Linearization (0)				N/A	
101	40102	Universal Input 26 Impedance or Linearization (1)				N/A	
102	40103	Universal Input 27 Impedance or Linearization (0)				N/A	
103	40104	Universal Input 27 Impedance or Linearization (1)				N/A	
104	40105	Universal Input 28 Impedance or Linearization (0)				N/A	
105	40106	Universal Input 28 Impedance or Linearization (1)				N/A	
106	40107	Universal Input 29 Impedance or Linearization (0)				N/A	
107	40108	Universal Input 29 Impedance or Linearization (1)				N/A	
108	40109	Universal Input 30 Impedance or Linearization (0)				N/A	
109	40110	Universal Input 30 Impedance or Linearization (1)				N/A	
110	40111	Temperature Units	Unsigned	1 = Celsius 2 = Fahrenheit	W	1	
111	40112	Input Profile	Unsigned	1 = Custom 2 = Profile 1 3 = Profile 2 4 = Profile 3	W	2	
112	40113	Universal Input 1 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	6	
113	40114	Universal Input 1 Reading Bias	10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F			W	0°C
114	40115	Universal Input 1 Linear Value Scale	0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10			W	N/A
115	40116	Universal Input 1 Minimum Vdc/mA	0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA			W	N/A
116	40117	Universal Input 1 Maximum Vdc/mA	0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA			W	N/A
117	40118	Universal Input 1 Minimum Linear Value	0-10V: Type: Signed,Scale: Dependent on register 114, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed,Scale: Dependent on register 114, Unit: mA, Range: -32768 - 32767mA			W	N/A

Protocol Address	Convention Notation	Description	Data Type	Units/Values	Writable	Default Value
118	40119	Universal Input 1 Maximum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 114, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 114, Unit: mA, Range: -32768 - 32767mA	W	N/A
119	40120	Universal Input 1 Linear Value Bias		0-10V: Type: Signed, Scale: Dependent on register 114, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 114, Unit: mA, Range: -32768 - 32767mA	W	N/A
120	40121	Universal Input 2 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	6
121	40122	Universal Input 2 Reading Bias		10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F	W	0°C
122	40123	Universal Input 2 Linear Value Scale		0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10	W	N/A
123	40124	Universal Input 2 Minimum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	N/A
124	40125	Universal Input 2 Maximum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	N/A
125	40126	Universal Input 2 Minimum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 122, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 122, Unit: mA, Range: -32768 - 32767mA	W	N/A
126	40127	Universal Input 2 Maximum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 122, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 122, Unit: mA, Range: -32768 - 32767mA	W	N/A
127	40128	Universal Input 2 Linear Value Bias		0-10V: Type: Signed, Scale: Dependent on register 122, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 122, Unit: mA, Range: -32768 - 32767mA	W	N/A
128	40129	Universal Input 3 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	6
129	40130	Universal Input 3 Reading Bias		10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F	W	0°C
130	40131	Universal Input 3 Linear Value Scale		0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10	W	N/A

Protocol Address	Convention Notation	Description	Data Type	Units/Values	Writable	Default Value
131	40132	Universal Input 3 Minimum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	N/A
132	40133	Universal Input 3 Maximum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	N/A
133	40134	Universal Input 3 Minimum Linear Value		0-10V: Type: Signed,Scale: Dependent on register 130, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed,Scale: Dependent on register 130, Unit: mA, Range: -32768 - 32767mA	W	N/A
134	40135	Universal Input 3 Maximum Linear Value		0-10V: Type: Signed,Scale: Dependent on register 130, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed,Scale: Dependent on register 130, Unit: mA, Range: -32768 - 32767mA	W	N/A
135	40136	Universal Input 3 Linear Value Bias		0-10V: Type: Signed,Scale: Dependent on register 130, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed,Scale: Dependent on register 130, Unit: mA, Range: -32768 - 32767mA	W	N/A
136	40137	Universal Input 4 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	6
137	40138	Universal Input 4 Reading Bias		10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F	W	0°C
138	40139	Universal Input 4 Linear Value Scale		0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10	W	N/A
139	40140	Universal Input 4 Minimum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	N/A
140	40141	Universal Input 4 Maximum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	N/A
141	40142	Universal Input 4 Minimum Linear Value		0-10V: Type: Signed,Scale: Dependent on register 138, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed,Scale: Dependent on register 138, Unit: mA, Range: -32768 - 32767mA	W	N/A
142	40143	Universal Input 4 Maximum Linear Value		0-10V: Type: Signed,Scale: Dependent on register 138, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed,Scale: Dependent on register 138, Unit: mA, Range: -32768 - 32767mA	W	N/A
143	40144	Universal Input 4 Linear Value Bias		0-10V: Type: Signed,Scale: Dependent on register 138, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed,Scale: Dependent on register 138, Unit: mA, Range: -32768 - 32767mA	W	N/A

Protocol Address	Convention Notation	Description	Data Type	Units/Values	Writable	Default Value
144	40145	Universal Input 5 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	6
145	40146	Universal Input 5 Reading Bias	10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F		W	0°C
146	40147	Universal Input 5 Linear Value Scale	0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10		W	N/A
147	40148	Universal Input 5 Minimum Vdc/mA	0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA		W	N/A
148	40149	Universal Input 5 Maximum Vdc/mA	0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA		W	N/A
149	40150	Universal Input 5 Minimum Linear Value	0-10V: Type: Signed, Scale: Dependent on register 146, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 146, Unit: mA, Range: -32768 - 32767mA		W	N/A
150	40151	Universal Input 5 Maximum Linear Value	0-10V: Type: Signed, Scale: Dependent on register 146, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 146, Unit: mA, Range: -32768 - 32767mA		W	N/A
151	40152	Universal Input 5 Linear Value Bias	0-10V: Type: Signed, Scale: Dependent on register 146, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 146, Unit: mA, Range: -32768 - 32767mA		W	N/A
152	40153	Universal Input 6 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	6
153	40154	Universal Input 6 Reading Bias	10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F		W	0°C
154	40155	Universal Input 6 Linear Value Scale	0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10		W	N/A
155	40156	Universal Input 6 Minimum Vdc/mA	0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA		W	N/A
156	40157	Universal Input 6 Maximum Vdc/mA	0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA		W	N/A

Protocol Address	Convention Notation	Description	Data Type	Units/Values	Writable	Default Value
157	40158	Universal Input 6 Minimum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 154, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 154, Unit: mA, Range: -32768 - 32767mA	W	N/A
158	40159	Universal Input 6 Maximum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 154, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 154, Unit: mA, Range: -32768 - 32767mA	W	N/A
159	40160	Universal Input 6 Linear Value Bias		0-10V: Type: Signed, Scale: Dependent on register 154, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 154, Unit: mA, Range: -32768 - 32767mA	W	N/A
160	40161	Universal Input 7 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	6
161	40162	Universal Input 7 Reading Bias		10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F	W	0°C
162	40163	Universal Input 7 Linear Value Scale		0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10	W	N/A
163	40164	Universal Input 7 Minimum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	N/A
164	40165	Universal Input 7 Maximum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	N/A
165	40166	Universal Input 7 Minimum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 162, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 162, Unit: mA, Range: -32768 - 32767mA	W	N/A
166	40167	Universal Input 7 Maximum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 162, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 162, Unit: mA, Range: -32768 - 32767mA	W	N/A
167	40168	Universal Input 7 Linear Value Bias		0-10V: Type: Signed, Scale: Dependent on register 162, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 162, Unit: mA, Range: -32768 - 32767mA	W	N/A
168	40169	Universal Input 8 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	6
169	40170	Universal Input 8 Reading Bias		10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F	W	0°C

Protocol Address	Convention Notation	Description	Data Type	Units/Values	Writable	Default Value
170	40171	Universal Input 8 Linear Value Scale	0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10		W	N/A
171	40172	Universal Input 8 Minimum Vdc/mA	0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA		W	N/A
172	40173	Universal Input 8 Maximum Vdc/mA	0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA		W	N/A
173	40174	Universal Input 8 Minimum Linear Value	0-10V: Type: Signed, Scale: Dependent on register 170, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 170, Unit: mA, Range: -32768 - 32767mA		W	N/A
174	40175	Universal Input 8 Maximum Linear Value	0-10V: Type: Signed, Scale: Dependent on register 170, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 170, Unit: mA, Range: -32768 - 32767mA		W	N/A
175	40176	Universal Input 8 Linear Value Bias	0-10V: Type: Signed, Scale: Dependent on register 170, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 170, Unit: mA, Range: -32768 - 32767mA		W	N/A
176	40177	Universal Input 9 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	6
177	40178	Universal Input 9 Reading Bias	10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F		W	0°C
178	40179	Universal Input 9 Linear Value Scale	0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10		W	N/A
179	40180	Universal Input 9 Minimum Vdc/mA	0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA		W	N/A
180	40181	Universal Input 9 Maximum Vdc/mA	0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA		W	N/A
181	40182	Universal Input 9 Minimum Linear Value	0-10V: Type: Signed, Scale: Dependent on register 178, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 178, Unit: mA, Range: -32768 - 32767mA		W	N/A
182	40183	Universal Input 9 Maximum Linear Value	0-10V: Type: Signed, Scale: Dependent on register 178, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 178, Unit: mA, Range: -32768 - 32767mA		W	N/A
183	40184	Universal Input 9 Linear Value Bias	0-10V: Type: Signed, Scale: Dependent on register 178, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 178, Unit: mA, Range: -32768 - 32767mA		W	N/A

Protocol Address	Convention Notation	Description	Data Type	Units/Values	Writable	Default Value
184	40185	Universal Input 10 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	3
185	40186	Universal Input 10 Reading Bias		10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F	W	N/A
186	40187	Universal Input 10 Linear Value Scale		0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10	W	N/A
187	40188	Universal Input 10 Minimum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	N/A
188	40189	Universal Input 10 Maximum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	N/A
189	40190	Universal Input 10 Minimum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 186, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 186, Unit: mA, Range: -32768 - 32767mA	W	N/A
190	40191	Universal Input 10 Maximum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 186, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 186, Unit: mA, Range: -32768 - 32767mA	W	N/A
191	40192	Universal Input 10 Linear Value Bias		0-10V: Type: Signed, Scale: Dependent on register 186, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 186, Unit: mA, Range: -32768 - 32767mA	W	N/A
192	40193	Universal Input 11 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	3
193	40194	Universal Input 11 Reading Bias		10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F	W	N/A
194	40195	Universal Input 11 Linear Value Scale		0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10	W	N/A
195	40196	Universal Input 11 Minimum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	N/A
196	40197	Universal Input 11 Maximum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	N/A

Protocol Address	Convention Notation	Description	Data Type	Units/Values	Writable	Default Value
197	40198	Universal Input 11 Minimum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 194, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 194, Unit: mA, Range: -32768 - 32767mA	W	N/A
198	40199	Universal Input 11 Maximum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 194, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 194, Unit: mA, Range: -32768 - 32767mA	W	N/A
199	40200	Universal Input 11 Linear Value Bias		0-10V: Type: Signed, Scale: Dependent on register 194, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 194, Unit: mA, Range: -32768 - 32767mA	W	N/A
200	40201	Universal Input 12 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	3
201	40202	Universal Input 12 Reading Bias		10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F	W	N/A
202	40203	Universal Input 12 Linear Value Scale		0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10	W	N/A
203	40204	Universal Input 12 Minimum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	N/A
204	40205	Universal Input 12 Maximum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	N/A
205	40206	Universal Input 12 Minimum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 202, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 202, Unit: mA, Range: -32768 - 32767mA	W	N/A
206	40207	Universal Input 12 Maximum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 202, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 202, Unit: mA, Range: -32768 - 32767mA	W	N/A
207	40208	Universal Input 12 Linear Value Bias		0-10V: Type: Signed, Scale: Dependent on register 202, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 202, Unit: mA, Range: -32768 - 32767mA	W	N/A
208	40209	Universal Input 13 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	3
209	40210	Universal Input 13 Reading Bias		10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F	W	N/A

Protocol Address	Convention Notation	Description	Data Type	Units/Values	Writable	Default Value
210	40211	Universal Input 13 Linear Value Scale	0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10		W	N/A
211	40212	Universal Input 13 Minimum Vdc/mA	0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA		W	N/A
212	40213	Universal Input 13 Maximum Vdc/mA	0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA		W	N/A
213	40214	Universal Input 13 Minimum Linear Value	0-10V: Type: Signed, Scale: Dependent on register 210, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 210, Unit: mA, Range: -32768 - 32767mA		W	N/A
214	40215	Universal Input 13 Maximum Linear Value	0-10V: Type: Signed, Scale: Dependent on register 210, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 210, Unit: mA, Range: -32768 - 32767mA		W	N/A
215	40216	Universal Input 13 Linear Value Bias	0-10V: Type: Signed, Scale: Dependent on register 210, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 210, Unit: mA, Range: -32768 - 32767mA		W	N/A
216	40217	Universal Input 14 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	3
217	40218	Universal Input 14 Reading Bias	10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F		W	N/A
218	40219	Universal Input 14 Linear Value Scale	0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10		W	N/A
219	40220	Universal Input 14 Minimum Vdc/mA	0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA		W	N/A
220	40221	Universal Input 14 Maximum Vdc/mA	0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA		W	N/A
221	40222	Universal Input 14 Minimum Linear Value	0-10V: Type: Signed, Scale: Dependent on register 218, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 218, Unit: mA, Range: -32768 - 32767mA		W	N/A
222	40223	Universal Input 14 Maximum Linear Value	0-10V: Type: Signed, Scale: Dependent on register 218, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 218, Unit: mA, Range: -32768 - 32767mA		W	N/A
223	40224	Universal Input 14 Linear Value Bias	0-10V: Type: Signed, Scale: Dependent on register 218, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 218, Unit: mA, Range: -32768 - 32767mA		W	N/A

Protocol Address	Convention Notation	Description	Data Type	Units/Values	Writable	Default Value
224	40225	Universal Input 15 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	3
225	40226	Universal Input 15 Reading Bias		10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F	W	N/A
226	40227	Universal Input 15 Linear Value Scale		0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10	W	1
227	40228	Universal Input 15 Minimum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	N/A
228	40229	Universal Input 15 Maximum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	N/A
229	40230	Universal Input 15 Minimum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 226, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 226, Unit: mA, Range: -32768 - 32767mA	W	N/A
230	40231	Universal Input 15 Maximum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 226, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 226, Unit: mA, Range: -32768 - 32767mA	W	N/A
231	40232	Universal Input 15 Linear Value Bias		0-10V: Type: Signed, Scale: Dependent on register 226, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 226, Unit: mA, Range: -32768 - 32767mA	W	N/A
232	40233	Universal Input 16 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	3
233	40234	Universal Input 16 Reading Bias		10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F	W	N/A
234	40235	Universal Input 16 Linear Value Scale		0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10	W	N/A
235	40236	Universal Input 16 Minimum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	N/A
236	40237	Universal Input 16 Maximum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	N/A

Protocol Address	Convention Notation	Description	Data Type	Units/Values	Writable	Default Value
237	40238	Universal Input 16 Minimum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 234, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 234, Unit: mA, Range: -32768 - 32767mA	W	N/A
238	40239	Universal Input 16 Maximum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 234, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 234, Unit: mA, Range: -32768 - 32767mA	W	N/A
239	40240	Universal Input 16 Linear Value Bias		0-10V: Type: Signed, Scale: Dependent on register 234, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 234, Unit: mA, Range: -32768 - 32767mA	W	N/A
240	40241	Universal Input 17 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	3
241	40242	Universal Input 17 Reading Bias		10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F	W	N/A
242	40243	Universal Input 17 Linear Value Scale		0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10	W	N/A
243	40244	Universal Input 17 Minimum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	N/A
244	40245	Universal Input 17 Maximum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	N/A
245	40246	Universal Input 17 Minimum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 242, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 242, Unit: mA, Range: -32768 - 32767mA	W	N/A
246	40247	Universal Input 17 Maximum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 242, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 242, Unit: mA, Range: -32768 - 32767mA	W	N/A
247	40248	Universal Input 17 Linear Value Bias		0-10V: Type: Signed, Scale: Dependent on register 242, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 242, Unit: mA, Range: -32768 - 32767mA	W	N/A
248	40249	Universal Input 18 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	2
249	40250	Universal Input 18 Reading Bias		10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F	W	N/A

Protocol Address	Convention Notation	Description	Data Type	Units/Values	Writable	Default Value
250	40251	Universal Input 18 Linear Value Scale	0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10		W	1
251	40252	Universal Input 18 Minimum Vdc/mA	0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA		W	0V
252	40253	Universal Input 18 Maximum Vdc/mA	0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA		W	20V
253	40254	Universal Input 18 Minimum Linear Value	0-10V: Type: Signed, Scale: Dependent on register 250, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 250, Unit: mA, Range: -32768 - 32767mA		W	0mA
254	40255	Universal Input 18 Maximum Linear Value	0-10V: Type: Signed, Scale: Dependent on register 250, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 250, Unit: mA, Range: -32768 - 32767mA		W	100mA
255	40256	Universal Input 18 Linear Value Bias	0-10V: Type: Signed, Scale: Dependent on register 250, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 250, Unit: mA, Range: -32768 - 32767mA		W	0mA
256	40257	Universal Input 19 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	2
257	40258	Universal Input 19 Reading Bias	10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F		W	N/A
258	40259	Universal Input 19 Linear Value Scale	0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10		W	1
259	40260	Universal Input 19 Minimum Vdc/mA	0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA		W	0V
260	40261	Universal Input 19 Maximum Vdc/mA	0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA		W	20V
261	40262	Universal Input 19 Minimum Linear Value	0-10V: Type: Signed, Scale: Dependent on register 258, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 258, Unit: mA, Range: -32768 - 32767mA		W	0mA
262	40263	Universal Input 19 Maximum Linear Value	0-10V: Type: Signed, Scale: Dependent on register 258, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 258, Unit: mA, Range: -32768 - 32767mA		W	100mA
263	40264	Universal Input 19 Linear Value Bias	0-10V: Type: Signed, Scale: Dependent on register 258, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 258, Unit: mA, Range: -32768 - 32767mA		W	0mA

Protocol Address	Convention Notation	Description	Data Type	Units/Values	Writable	Default Value
264	40265	Universal Input 20 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	2
265	40266	Universal Input 20 Reading Bias		10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F	W	N/A
266	40267	Universal Input 20 Linear Value Scale		0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10	W	1
267	40268	Universal Input 20 Minimum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	0V
268	40269	Universal Input 20 Maximum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	20V
269	40270	Universal Input 20 Minimum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 266, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 266, Unit: mA, Range: -32768 - 32767mA	W	0mA
270	40271	Universal Input 20 Maximum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 266, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 266, Unit: mA, Range: -32768 - 32767mA	W	100mA
271	40272	Universal Input 20 Linear Value Bias		0-10V: Type: Signed, Scale: Dependent on register 266, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 266, Unit: mA, Range: -32768 - 32767mA	W	0mA
272	40273	Universal Input 21 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	2
273	40274	Universal Input 21 Reading Bias		10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F	W	N/A
274	40275	Universal Input 21 Linear Value Scale		0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10	W	1
275	40276	Universal Input 21 Minimum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	0V
276	40277	Universal Input 21 Maximum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	20V

Protocol Address	Convention Notation	Description	Data Type	Units/Values	Writable	Default Value
277	40278	Universal Input 21 Minimum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 274, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 274, Unit: mA, Range: -32768 - 32767mA	W	0mA
278	40279	Universal Input 21 Maximum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 274, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 274, Unit: mA, Range: -32768 - 32767mA	W	100mA
279	40280	Universal Input 21 Linear Value Bias		0-10V: Type: Signed, Scale: Dependent on register 274, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 274, Unit: mA, Range: -32768 - 32767mA	W	0mA
280	40281	Universal Input 22 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	2
281	40282	Universal Input 22 Reading Bias		10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F	W	N/A
282	40283	Universal Input 22 Linear Value Scale		0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10	W	1
283	40284	Universal Input 22 Minimum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	0V
284	40285	Universal Input 22 Maximum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	20V
285	40286	Universal Input 22 Minimum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 282, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 282, Unit: mA, Range: -32768 - 32767mA	W	0mA
286	40287	Universal Input 22 Maximum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 282, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 282, Unit: mA, Range: -32768 - 32767mA	W	100mA
287	40288	Universal Input 22 Linear Value Bias		0-10V: Type: Signed, Scale: Dependent on register 282, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 282, Unit: mA, Range: -32768 - 32767mA	W	0mA
288	40289	Universal Input 23 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	2
289	40290	Universal Input 23 Reading Bias		10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F	W	N/A

Protocol Address	Convention Notation	Description	Data Type	Units/Values	Writable	Default Value
290	40291	Universal Input 23 Linear Value Scale	0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10		W	1
291	40292	Universal Input 23 Minimum Vdc/mA	0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA		W	0V
292	40293	Universal Input 23 Maximum Vdc/mA	0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA		W	20V
293	40294	Universal Input 23 Minimum Linear Value	0-10V: Type: Signed, Scale: Dependent on register 290, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 290, Unit: mA, Range: -32768 - 32767mA		W	0mA
294	40295	Universal Input 23 Maximum Linear Value	0-10V: Type: Signed, Scale: Dependent on register 290, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 290, Unit: mA, Range: -32768 - 32767mA		W	100mA
295	40296	Universal Input 23 Linear Value Bias	0-10V: Type: Signed, Scale: Dependent on register 290, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 290, Unit: mA, Range: -32768 - 32767mA		W	0mA
296	40297	Universal Input 24 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	2
297	40298	Universal Input 24 Reading Bias	10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F		W	N/A
298	40299	Universal Input 24 Linear Value Scale	0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10		W	1
299	40300	Universal Input 24 Minimum Vdc/mA	0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA		W	0V
300	40301	Universal Input 24 Maximum Vdc/mA	0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA		W	20V
301	40302	Universal Input 24 Minimum Linear Value	0-10V: Type: Signed, Scale: Dependent on register 298, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 298, Unit: mA, Range: -32768 - 32767mA		W	0mA
302	40303	Universal Input 24 Maximum Linear Value	0-10V: Type: Signed, Scale: Dependent on register 298, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 298, Unit: mA, Range: -32768 - 32767mA		W	100mA
303	40304	Universal Input 24 Linear Value Bias	0-10V: Type: Signed, Scale: Dependent on register 298, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 298, Unit: mA, Range: -32768 - 32767mA		W	0mA

Protocol Address	Convention Notation	Description	Data Type	Units/Values	Writable	Default Value
304	40305	Universal Input 25 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	2
305	40306	Universal Input 25 Reading Bias		10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F	W	N/A
306	40307	Universal Input 25 Linear Value Scale		0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10	W	1
307	40308	Universal Input 25 Minimum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	0V
308	40309	Universal Input 25 Maximum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	20V
309	40310	Universal Input 25 Minimum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 306, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 306, Unit: mA, Range: -32768 - 32767mA	W	0mA
310	40311	Universal Input 25 Maximum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 306, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 306, Unit: mA, Range: -32768 - 32767mA	W	100mA
311	40312	Universal Input 25 Linear Value Bias		0-10V: Type: Signed, Scale: Dependent on register 306, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 306, Unit: mA, Range: -32768 - 32767mA	W	0mA
312	40313	Universal Input 26 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	2
313	40314	Universal Input 26 Reading Bias		10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F	W	N/A
314	40315	Universal Input 26 Linear Value Scale		0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10	W	1
315	40316	Universal Input 26 Minimum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	0V
316	40317	Universal Input 26 Maximum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	20V

Protocol Address	Convention Notation	Description	Data Type	Units/Values	Writable	Default Value
317	40318	Universal Input 26 Minimum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 314, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 314, Unit: mA, Range: -32768 - 32767mA	W	0mA
318	40319	Universal Input 26 Maximum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 314, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 314, Unit: mA, Range: -32768 - 32767mA	W	100mA
319	40320	Universal Input 26 Linear Value Bias		0-10V: Type: Signed, Scale: Dependent on register 314, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 314, Unit: mA, Range: -32768 - 32767mA	W	0mA
320	40321	Universal Input 27 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	2
321	40322	Universal Input 27 Reading Bias		10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F	W	N/A
322	40323	Universal Input 27 Linear Value Scale		0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10	W	1
323	40324	Universal Input 27 Minimum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	0V
324	40325	Universal Input 27 Maximum Vdc/mA		0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA	W	20V
325	40326	Universal Input 27 Minimum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 322, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 322, Unit: mA, Range: -32768 - 32767mA	W	0mA
326	40327	Universal Input 27 Maximum Linear Value		0-10V: Type: Signed, Scale: Dependent on register 322, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 322, Unit: mA, Range: -32768 - 32767mA	W	100mA
327	40328	Universal Input 27 Linear Value Bias		0-10V: Type: Signed, Scale: Dependent on register 322, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 322, Unit: mA, Range: -32768 - 32767mA	W	0mA
328	40329	Universal Input 28 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	2
329	40330	Universal Input 28 Reading Bias		10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F	W	N/A

Protocol Address	Convention Notation	Description	Data Type	Units/Values	Writable	Default Value
330	40331	Universal Input 28 Linear Value Scale	0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10		W	1
331	40332	Universal Input 28 Minimum Vdc/mA	0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA		W	0V
332	40333	Universal Input 28 Maximum Vdc/mA	0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA		W	20V
333	40334	Universal Input 28 Minimum Linear Value	0-10V: Type: Signed, Scale: Dependent on register 330, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 330, Unit: mA, Range: -32768 - 32767mA		W	0mA
334	40335	Universal Input 28 Maximum Linear Value	0-10V: Type: Signed, Scale: Dependent on register 330, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 330, Unit: mA, Range: -32768 - 32767mA		W	100mA
335	40336	Universal Input 28 Linear Value Bias	0-10V: Type: Signed, Scale: Dependent on register 330, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 330, Unit: mA, Range: -32768 - 32767mA		W	0mA
336	40337	Universal Input 29 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	2
337	40338	Universal Input 29 Reading Bias	10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F		W	N/A
338	40339	Universal Input 29 Linear Value Scale	0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10		W	1
339	40340	Universal Input 29 Minimum Vdc/mA	0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA		W	0V
340	40341	Universal Input 29 Maximum Vdc/mA	0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA		W	20V
341	40342	Universal Input 29 Minimum Linear Value	0-10V: Type: Signed, Scale: Dependent on register 338, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 338, Unit: mA, Range: -32768 - 32767mA		W	0mA
342	40343	Universal Input 29 Maximum Linear Value	0-10V: Type: Signed, Scale: Dependent on register 338, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 338, Unit: mA, Range: -32768 - 32767mA		W	100mA
343	40344	Universal Input 29 Linear Value Bias	0-10V: Type: Signed, Scale: Dependent on register 338, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 338, Unit: mA, Range: -32768 - 32767mA		W	0mA

Protocol Address	Convention Notation	Description	Data Type	Units/Values	Writable	Default Value
344	40345	Universal Input 30 Mode	Unsigned	1= 0-10V 2= 4-20mA 3= Dry Contact 4= 10K Type3/G/4A1 5= 10K Type2/3A1/NTC(Danfoss) 6= 10K_ NTC Carel 7= 20K Type6A1 8= 30K Type6A1 9= BAPI 1K Ni 10= MAMAC TE703/4-Ni1K - Type 2 11= MAMAC TE703/4-Pt1K- Type 3	W	2
345	40346	Universal Input 30 Reading Bias	10K NTC Carel, 10K Type 2/3A1/NTC(Danfoss), 20K Type 6AI, 30K Type 6AI, 10K Type 3/G/4A1, BAPI 1K Ni, MAMAC TE703/4-Ni1K - Type 2, MAMAC TE703/4-Pt1K - Type 3: Type: Signed, Scale:100, Unit: °C, Range: -327.68 - 327.68°C Type: Signed, Scale:100, Unit: °F, Range: -327.68 - 327.68°F		W	N/A
346	40347	Universal Input 30 Linear Value Scale	0-10V, 4-20mA: Type: Unsigned, Scale:1000, Unit: No Unit, Range: 0.001, 0.01, 0.1, 1 or 10		W	1
347	40348	Universal Input 30 Minimum Vdc/mA	0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA		W	0V
348	40349	Universal Input 30 Maximum Vdc/mA	0-10V: Type: Unsigned, Scale:1000, Unit: Volt, Range: 0.00 - 65.535V 4-20mA: Type: Unsigned, Scale:1000, Unit: mA, Range: 0.00 - 65.535mA		W	20V
349	40350	Universal Input 30 Minimum Linear Value	0-10V: Type: Signed, Scale: Dependent on register 346, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 346, Unit: mA, Range: -32768 - 32767mA		W	0mA
350	40351	Universal Input 30 Maximum Linear Value	0-10V: Type: Signed, Scale: Dependent on register 346, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 346, Unit: mA, Range: -32768 - 32767mA		W	100mA
351	40352	Universal Input 30 Linear Value Bias	0-10V: Type: Signed, Scale: Dependent on register 346, Unit: Volt, Range: -32768 - 32767V 4-20mA: Type: Signed, Scale: Dependent on register 346, Unit: mA, Range: -32768 - 32767mA		W	0mA
352	40353	Failsafe Timeout	Unsigned Scale 1	Unit: Seconds (sec), Range: 0 sec to 65535 sec, Value x 1 (e.g. 2 sec = 2)	W	60
353	40354	Analog Output 1 Failsafe Mode	Unsigned	1 = Last State 2 = Preset	W	2
354	40355	Analog Output 1 Preset	Unsigned Scale 1000	Unit: Volt (V), Range: 0V to 10V, Value x 1000 (e.g. 2V = 2000)	W	0V
355	40356	Analog Output 2 Failsafe Mode	Unsigned	1 = Last State 2 = Preset	W	2
356	40357	Analog Output 2 Preset	Unsigned Scale 1000	Unit: Volt (V), Range: 0V to 10V, Value x 1000 (e.g. 2V = 2000)	W	0V
357	40358	Analog Output 3 Failsafe Mode	Unsigned	1 = Last State 2 = Preset	W	2
358	40359	Analog Output 3 Preset	Unsigned Scale 1000	Unit: Volt (V), Range: 0V to 10V, Value x 1000 (e.g. 2V = 2000)	W	0V

Protocol Address	Convention Notation	Description	Data Type	Units/Values	Writable	Default Value
359	40360	Analog Output 4 Failsafe Mode	Unsigned	1 = Last State 2 = Preset	W	2
360	40361	Analog Output 4 Preset	Unsigned Scale 1000	Unit: Volt (V), Range: 0V to 10V, <i>Value x 1000 (e.g. 2V = 2000)</i>	W	0V
361	40362	Analog Output 5 Failsafe Mode***	Unsigned	1 = Last State 2 = Preset	W	2
362	40363	Analog Output 5 Preset***	Unsigned Scale 1000	Unit: Volt (V), Range: 0V to 10V, <i>Value x 1000 (e.g. 2V = 2000)</i>	W	0V
363	40364	Analog Output 6 Failsafe Mode***	Unsigned	1 = Last State 2 = Preset	W	2
364	40365	Analog Output 6 Preset***	Unsigned Scale 1000	Unit: Volt (V), Range: 0V to 10V, <i>Value x 1000 (e.g. 2V = 2000)</i>	W	0V
365	40366	Analog Output 7 Failsafe Mode***	Unsigned	1 = Last State 2 = Preset	W	2
366	40367	Analog Output 7 Preset***	Unsigned Scale 1000	Unit: Volt (V), Range: 0V to 10V, <i>Value x 1000 (e.g. 2V = 2000)</i>	W	0V
367	40368	Analog Output 8 Failsafe Mode***	Unsigned	1 = Last State 2 = Preset	W	2
368	40369	Analog Output 8 Preset***	Unsigned Scale 1000	Unit: Volt (V), Range: 0V to 10V, <i>Value x 1000 (e.g. 2V = 2000)</i>	W	0V
369	40370	Binary Output 1 Failsafe Mode	Unsigned	1 = Last State 2 = Open 3 = Closed	W	2
370	40371	Binary Output 2 Failsafe Mode	Unsigned	1 = Last State 2 = Open 3 = Closed	W	2
371	40372	Binary Output 3 Failsafe Mode	Unsigned	1 = Last State 2 = Open 3 = Closed	W	2
372	40373	Binary Output 4 Failsafe Mode	Unsigned	1 = Last State 2 = Open 3 = Closed	W	2
373	40374	Binary Output 5 Failsafe Mode	Unsigned	1 = Last State 2 = Open 3 = Closed	W	2

Protocol Address	Convention Notation	Description	Data Type	Units/Values	Writable	Default Value
374	40375	Binary Output 6 Failsafe Mode	Unsigned	1 = Last State 2 = Open 3 = Closed	W	2
375	40376	Binary Output 7 Failsafe Mode	Unsigned	1 = Last State 2 = Open 3 = Closed	W	2
376	40377	Binary Output 8 Failsafe Mode	Unsigned	1 = Last State 2 = Open 3 = Closed	W	2
377	40378	Binary Output 9 Failsafe Mode	Unsigned	1 = Last State 2 = Open 3 = Closed	W	2
378	40379	Binary Output 10 Failsafe Mode	Unsigned	1 = Last State 2 = Open 3 = Closed	W	2
379	40380	Binary Output 11 Failsafe Mode	Unsigned	1 = Last State 2 = Open 3 = Closed	W	2
380	40381	Binary Output 12 Failsafe Mode	Unsigned	1 = Last State 2 = Open 3 = Closed	W	2
381	40382	Binary Output 13 Failsafe Mode****	Unsigned	1 = Last State 2 = Open 3 = Closed	W	2
382	40383	Binary Output 14 Failsafe Mode****	Unsigned	1 = Last State 2 = Open 3 = Closed	W	2
383	40384	Binary Output 15 Failsafe Mode****	Unsigned	1 = Last State 2 = Open 3 = Closed	W	2
384	40385	Binary Output 16 Failsafe Mode****	Unsigned	1 = Last State 2 = Open 3 = Closed	W	2

*** Only available when JP3 - JP6 jumpers (UO1 - UO4 selector) are set to AO5 - AO8.

**** Only available when JP3 - JP6 jumpers (UO1 - UO4 selector) are set to BO13 - BO16.

[illegible]



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