

EN

## Interface Description

# OMNIPLUS-F

Thermal Flow Sensor



Members of GHM GROUP:

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# 1 General

## 1.1 Info

|             |   |
|-------------|---|
| Vendor ID   | 0x0554 / 1364 d   |
| Vendor Name | GHM Messtechnik GmbH  |
| Vendor Text | <a href="http://www.ghm-group.de">www.ghm-group.de</a>            |
| Vendor URL  | <a href="https://www.ghm-group.de/">https://www.ghm-group.de/</a> |
| Device ID   | 0x000C01 / 3073 d   |

## 1.2 Communication

|                    |       |
|--------------------|-------|
| IO-Link Revision   | V1.1  |
| Bitrate            | COM2  |
| Minimal cycle time | 20 ms |
| SIO Mode supported | Yes   |
| ISDU supported     | Yes   |

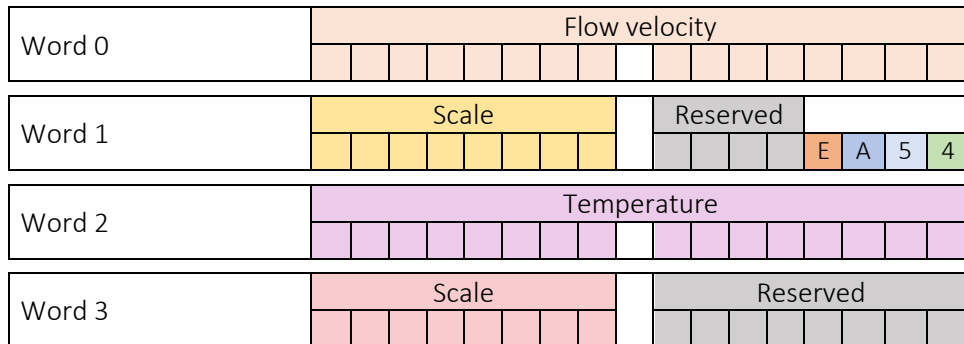
## 1.3 Functionality

|                        |     |
|------------------------|-----|
| Block parameterisation | Yes |
| Data storage           | Yes |

## 2 Process Data

| Name              | Description                                | Index | Subindex | Data type | Bit offset | Bit length | Value range                                 | Factor                          | Offset | Unit |
|-------------------|--|-------|----------|-----------|------------|------------|---|---------------------------------|--------|------|
| Flow velocity     | Flow velocity                              | 40    | 1        | IntegerT  | 48         | 16         | 0.000 to 3.000<br>(-32760) UL<br>(32764) OL | 0.001<br>(10 <sup>Scale</sup> ) | 0      | m/s  |
| Flow scale        | Range adjustment<br>(10 <sup>Scale</sup> ) | 40    | 2        | IntegerT  | 40         | 8          | -128 to 127                                 |                                 |        |      |
| Device Error      | Device Status Error                        | 40    | 3        | BooleanT  | 35         | 1          | (false) Inactive<br>(true) Active           |                                 |        |      |
| Alarm             | Alarm state                                | 40    | 4        | BooleanT  | 34         | 1          | (false) Inactive<br>(true) Active           |                                 |        |      |
| Pin 5             | State of Pin 5<br>(digital output)         | 40    | 5        | BooleanT  | 33         | 1          | (false) Inactive<br>(true) Active           |                                 |        |      |
| Pin 4             | State of Pin 4<br>(digital output)         | 40    | 6        | BooleanT  | 32         | 1          | (false) Inactive<br>(true) Active           |                                 |        |      |
| Temperature       | Media temperature                          | 40    | 7        | IntegerT  | 16         | 16         | 0.0 to 85.0<br>(-32760) UL<br>(32764) OL    | 1.000<br>(10 <sup>Scale</sup> ) | 0      | °C   |
| Temperature scale | Range adjustment<br>(10 <sup>Scale</sup> ) | 40    | 8        | IntegerT  | 8          | 8          | -128 to 127                                 |                                 |        |      |

### PLC-In Mapping



### 3 Observation

| Name                       | Description                    | Index | Subindex | Data type | Length  | Access rights | Unit              |
|----------------------------|--------------------------------|-------|----------|-----------|---------|---------------|-------------------|
| Process Data Input         | Process Data Input             | 40    | 0        | RecordT   | 8 Bytes | ro            |                   |
| Flow Velocity              | Flow velocity                  | 310   | 0        | Float32T  | 4 Bytes | ro            | m/s               |
| Flow Rate                  | Flow rate                      | 311   | 0        | Float32T  | 4 Bytes | ro            | m <sup>3</sup> /s |
| Volume Flow Total          | Flow volume total              | 312   | 0        | Float32T  | 4 Bytes | ro            | m <sup>3</sup>    |
| Medium Temperature         | Value of medium temperature    | 303   | 0        | Float32T  | 4 Bytes | ro            | °C                |
| Heater Power (Filtered)    | Filtered value of heater power | 302   | 0        | Float32T  | 4 Bytes | ro            | W                 |
| Internal MCU Temperature   | Internal MCU temperature       | 320   | 0        | Float32T  | 4 Bytes | ro            | °C                |
| External 24 V Power Supply | External power supply          | 321   | 0        | Float32T  | 4 Bytes | ro            | V                 |

## 4 Variables

| Name                     | Description                  | Index | Subindex | Data type | Length       | Access rights | Default settings                                       | Value range                    | Factor | Offset | Unit |
|--------------------------|------------------------------|-------|----------|-----------|--------------|---------------|--|--------------------------------|--------|--------|------|
| <b>Identification</b>    |                              |       |          |           |              |               |  |                                |        |        |      |
| Vendor Name              |                              | 16    | 0        | StringT   | max 32 Bytes | ro            | GHM Messtechnik GmbH                                   |                                |        |        |      |
| Vendor Text              |                              | 17    | 0        | StringT   | max 32 Bytes | ro            | <a href="http://www.ghm-group.de">www.ghm-group.de</a> |                                |        |        |      |
| Product Name             |                              | 18    | 0        | StringT   | max 32 Bytes | ro            |  |                                |        |        |      |
| Product ID               |                              | 19    | 0        | StringT   | max 32 Bytes | ro            |  |                                |        |        |      |
| Product Text             |                              | 20    | 0        | StringT   | max 32 Bytes | ro            | Thermal flow sensor                                    |                                |        |        |      |
| Serial Number            |                              | 21    | 0        | StringT   | max 16 Bytes | ro            |  |                                |        |        |      |
| Hardware Version         |                              | 22    | 0        | StringT   | max 32 Bytes | ro            |  |                                |        |        |      |
| Firmware Version         |                              | 23    | 0        | StringT   | max 32 Bytes | ro            |  |                                |        |        |      |
| Application Specific Tag |                              | 24    | 0        | StringT   | max 32 Bytes | rw            | ***  |                                |        |        |      |
| Function Tag             |                              | 25    | 0        | StringT   | max 32 Bytes | rw            | ***  |                                |        |        |      |
| Location Tag             |                              | 26    | 0        | StringT   | max 32 Bytes | rw            | ***  |                                |        |        |      |
| <b>Flow measuring</b>    |                              |       |          |           |              |               |  |                                |        |        |      |
| Medium                   | Selection of the medium      | 100   | 0        | UIntegerT | 1 Byte       | rw            | (0) Water  | (0) Water<br>(4)User defined   |        |        |      |
| Max velocity             | Maximum flow velocity of the | 101   | 0        | Float32T  | 4 Byte       | rw            | 3.00   | 0.02 to 3.00<br>(0 % to 100 %) |        |        | m/s  |

| Name           | Description  | Index | Subindex | Data type | Length  | Access rights | Default settings | Value range   | Factor | Offset | Unit |
|----------------|--|-------|----------|-----------|---------|---------------|------------------|---|--------|--------|------|
|                | medium<br>(100% value for flow measurement)  |       |          |           |         |               |                  |   |        |        |      |
| Pipe diameter  | Pipe diameter  | 102   | 0        | Float32T  | 4 Bytes | rw            | 25.0             | 15.0 to 500.0   |        |        | mm   |
| K-Factor       | Scaling factor for calculating the flow rate (volume / time)   | 103   | 0        | Float32T  | 4 Bytes | rw            | 1.00             | 0.10 to 2.00  |        |        |      |
| Unit (Flow)    | Unit of the displayed value of the flow measurement  | 104   | 0        | UIntegerT | 1 Byte  | rw            | (4) L/min        | (0) % FS (% of Max velocity)<br>(1) m/s<br>(2) cm/s<br>(4) L/min<br>(5) L/h<br>(6) m <sup>3</sup> /h<br>(7) % Bargraph                                |        |        |      |
| Decimals       | Number of decimal places for the display of the value of the flow measurement                          | 105   | 0        | UIntegerT | 1 Byte  | rw            | (0) 0.           | (0) 0. (none)<br>(1) 0.0<br>(2) 0.00<br>(3) 0.000<br>(127) variable<br>(The maximum possible number of decimal places are always used in the display) |        |        |      |
| Start of range | Starting point of the characteristic curve at a velocity of 0.000 m / s<br>(For medium = User defined) | 107   | 0        | Float32T  | 4 Bytes | rw            | 0.2312           | 0.0000 to 1.0000  |        |        | W    |

| Name                                   | Description   | Index | Subindex | Data type | Length  | Access rights | Default settings | Value range   | Factor | Offset | Unit              |
|--|---|-------|----------|-----------|---------|---------------|------------------|---|--------|--------|-------------------|
| End of range                           | End point of the characteristic<br>(For medium = User defined)  | 108   | 0        | Float32T  | 4 Bytes | rw            | 0.3887           | 0.0000 to 1.0000  |        |        | W                 |
| Display value                          | Display value for the flow rate measured value at the end of the range<br>(For medium = User defined) | 111   | 0        | Float32T  | 4 Bytes | rw            | 50               | 1.0 to 1000.0   |        |        | L/min             |
| Response time                          | Reaction time<br>(Time constant measured value filter)  | 110   | 0        | Float32T  | 4 Bytes | rw            | 2.0              | 0.0 to 99.9   |        |        | s                 |
| Max flow rate                          | Calculated flow rate from max. velocity and pipe diameter   | 112   | 0        | Float32T  | 4 Bytes | ro            | 0,00147          | 0.00 to 1.00  |        |        | m <sup>3</sup> /s |
| <b>Volume totalizer</b>                |   |       |          |           |         |               |                  |   |        |        |                   |
| Totalizer                              | Activation of totalizer   | 120   | 0        | UIntegerT | 1 Byte  | rw            | (0) Off          | (0) Off<br>(1) On   |        |        |                   |
| Reset mode                             | Totalizer Selection of the source for reset   | 121   | 0        | UIntegerT | 1 Byte  | rw            | (0) None         | (0) None<br>(1) Preset counter<br>(2) External (pin5)<br>(3) Ring |        |        |                   |
| Preset counter<br>(Totalizer function) | Activation of the Preset mode for volume totalizer<br>(Set preset value with reset signal)            | 122   | 0        | UIntegerT | 1 Byte  | rw            | (0) Off          | (0) Off<br>(1) On   |        |        |                   |
| Preset unit                            | Totalizer Unit of the preset value  | 123   | 0        | UIntegerT | 1 Byte  | rw            | (1) Liter        | (1) Liter<br>(2) m <sup>3</sup>                                   |        |        |                   |

| Name                               | Description   | Index | Subindex | Data type | Length  | Access rights | Default settings      | Value range  | Factor | Offset | Unit |
|------------------------------------|---|-------|----------|-----------|---------|---------------|-----------------------|--|--------|--------|------|
| Preset value                       | Totalizer start value<br>(For preset mode = active)   | 124   | 0        | IntegerT  | 4 Bytes | rw            | 1000000<br>(1000.000) | 0 to 9999999<br>(0.000 to 9999.999)  | 0.001  | 0.000  |      |
| <b>Temp measuring</b>              |   |       |          |           |         |               |                       |  |        |        |      |
| Unit<br>(Temp)                     | Physical unit for displaying the temperature measured value                                 | 130   | 0        | UIntegerT | 1 Bytes | rw            | (0) °C                | (0) °C<br>(1) °F<br>(2) K  |        |        |      |
| <b>Pin 2 settings (analog out)</b> |   |       |          |           |         |               |                       |  |        |        |      |
| Function<br>(Pin 2)                | Selection of the function of the analogue output  | 400   | 0        | UIntegerT | 1 Byte  | rw            | (1) Analog out flow   | (0) Off<br>(1) Analog out flow<br>(2) Analog out temp  |        |        |      |
| Analog out mode                    | Selection of the mode for the analogue output   | 401   | 0        | UIntegerT | 1 Byte  | rw            | (0) 4-20 mA           | (0) 4-20 mA<br>(1) 0-20 mA<br>(2) 0-10 V<br>(3) 2-10 V<br>(4) 0-5 V<br>(5) 1-5V<br>(6) 0.5-4.5 V |        |        |      |
| Analog out min                     | Value for the output of the start value at the analogue output<br>(Depending on p2AoutMode) | 402   | 0        | Float32T  | 4 Bytes | rw            | 0.0                   | 0.0 to 90.0  |        |        | %    |
| Analog out max                     | Value for the output of the end value at the analogue output<br>(Depending on p2AoutMode)   | 403   | 0        | Float32T  | 4 Bytes | rw            | 100.0                 | 10.0 to 100.0  |        |        | %    |
| <b>Pin 4 settings</b>              |   |       |          |           |         |               |                       |  |        |        |      |
| Function<br>(Pin 4)                | Selection of the function   | 420   | 0        | UIntegerT | 1 Byte  | rw            | (0) Off               | (0) Off<br>(1) Flow switch output  |        |        |      |

| Name                     | Description                               | Index | Subindex | Data type | Length  | Access rights | Default settings     | Value range  | Factor | Offset | Unit |
|--------------------------|---|-------|----------|-----------|---------|---------------|----------------------|--|--------|--------|------|
|                          |   |       |          |           |         |               |                      | (2) Temp switch output<br>(3) Flow freq output<br>(4) Temp freq output<br>(5) Flow pulse output<br>(6) Flow preset counter |        |        |      |
| Output driver (Pin 4)    | Selection of the output driver function   | 421   | 0        | UIntegerT | 1 Byte  | ro            | (0) Push-Pull        | (0) Push-Pull<br>(1) NPN o.c.  |        |        |      |
| Switch logic (Pin 4)     | Selection of the logic switching function | 422   | 0        | UIntegerT | 1 Byte  | rw            | (1) Alarm low        | (0) Alarm high<br>(1) Alarm low  |        |        |      |
| Switch mode (Pin 4)      | Selection of the switching function mode  | 423   | 0        | UIntegerT | 1 Byte  | rw            | (1) Single point max | (1) Single point max<br>(2) Single point min<br>(3) Window   |        |        |      |
| Hysteresis (Pin 4)       | Switching function hysteresis             | 424   | 0        | Float32T  | 4 Bytes | rw            | 2.0                  | 0.0 to 100.0   |        |        | %    |
| Setpoint 1 (Pin 4)       | Setpoint 1                                | 425   | 0        | Float32T  | 4 Bytes | rw            | 50.0                 | 0.0 to 100.0   |        |        | %    |
| Setpoint 2 (Pin 4)       | Setpoint 2                                | 426   | 0        | Float32T  | 4 Bytes | rw            | 30.0                 | 0.0 to 100.0   |        |        | %    |
| Set time delay (Pin 4)   | Time delay when switching on the output   | 427   | 0        | UIntegerT | 2 Bytes | rw            | 0<br>(0.0 s)         | 0 to 1000<br>(0.0 s to 100.0 s)  | 0.1    | 0.0    | s    |
| Reset time delay (Pin 4) | Time delay when switching off the output  | 428   | 0        | UIntegerT | 2 Bytes | rw            | 0<br>(0.0 s)         | 0 to 1000<br>(0.0 s to 100.0 s)  | 0.1    | 0.0    | s    |
| Frequency min (Pin 4)    | Lower limit for frequency output function | 440   | 0        | Float32T  | 4 Bytes | rw            | 0.0                  | 0.0 to 1000.0  |        |        | Hz   |
| Frequency max (Pin 4)    | Upper limit for frequency output function | 441   | 0        | Float32T  | 4 Bytes | rw            | 1000.0               | 5.0 to 2000.0  |        |        | Hz   |

| Name                   | Description   | Index | Subindex | Data type | Length  | Access rights | Default settings         | Value range   | Factor | Offset | Unit |
|------------------------|---|-------|----------|-----------|---------|---------------|--------------------------|---|--------|--------|------|
| Freq scale min (Pin 4) | Lower scaling value for frequency output function                 | 442   | 0        | Float32T  | 4 Bytes | rw            | 0.0                      | 0.0 to 100.0  |        |        | %    |
| Freq scale max (Pin 4) | Upper scaling value for frequency output function                 | 443   | 0        | Float32T  | 4 Bytes | rw            | 100.0                    | 10.0 to 100.0   |        |        | %    |
| Pulse unit             | Unit for the pulse output function                                | 450   | 0        | UIntegerT | 1 Byte  | rw            | (0) Liter                | (0) Liter<br>(1) m <sup>3</sup>   |        |        |      |
| Pulse value            | Value for the pulse output function                               | 451   | 0        | Float32T  | 4 Bytes | rw            | 10000.0                  | 0.0 to 20000.0  |        |        |      |
| Pulse duration         | Duration of the pulse output                                      | 452   | 0        | UIntegerT | 2 Bytes | rw            | 10                       | 10 to 1000  |        |        | ms   |
| Pulse polarity         | Polarity of the pulse output                                      | 453   | 0        | UIntegerT | 1 Byte  | rw            | (0) positive             | (0) positive<br>(1) negative  |        |        |      |
| Sync totalizer         | Synchronization for volume totalizer                              | 454   | 0        | UIntegerT | 1 Byte  | rw            | (0) Yes                  | (0) Yes<br>(1) No   |        |        |      |
| Preset counter         | Mode selection for output of the totalizer preset signal          | 460   | 0        | UIntegerT | 1 Byte  | rw            | (0) Output signal static | (0) Output signal static<br>(1) Output pulse  |        |        |      |
| Counter duration       | Pulse duration of the output signal (For pin4CountPreset = pulse) | 461   | 0        | UIntegerT | 2 Bytes | rw            | 10<br>(1.0 s)            | 1 to 1000<br>(0.1 s to 100.0 s)   | 0.1    | 0.0    | s    |
| Counter polarity       | Polarity of the output signal                                     | 462   | 0        | UIntegerT | 1 Byte  | rw            | (0) positive             | (0) positive<br>(1) negative  |        |        |      |
| <b>Pin 5 settings</b>  |   |       |          |           |         |               |                          |   |        |        |      |
| Function (Pin 5)       | Selection of the function   | 500   | 0        | UIntegerT | 1 Byte  | rw            | (0) Off                  | (0) Off<br>(1) Flow switch output<br>(2) Temp switch output<br>(3) Flow freq output |        |        |      |

| Name                     | Description                                       | Index | Subindex | Data type | Length  | Access rights | Default settings     | Value range   | Factor | Offset | Unit |
|--------------------------|---|-------|----------|-----------|---------|---------------|----------------------|---|--------|--------|------|
|                          |   |       |          |           |         |               |                      | (4) Temp freq output<br>(5) Totalizer reset input<br>(6) Inversed pin 4 |        |        |      |
| Output driver (Pin 5)    | Selection of the output driver function           | 501   | 0        | UIntegerT | 1 Byte  | rw            | (0) Push-Pull        | (0) Push-Pull<br>(1) NPN o.c.   |        |        |      |
| Switch logic (Pin 5)     | Selection of the logic switching function         | 502   | 0        | UIntegerT | 1 Byte  | rw            | (0) Alarm high       | (0) Alarm high<br>(1) Alarm low   |        |        |      |
| Switch mode (Pin 5)      | Selection of the switching function mode          | 503   | 0        | UIntegerT | 1 Byte  | rw            | (1) Single point max | (1) Single point max<br>(2) Single point min<br>(3) Window              |        |        |      |
| Hysteresis (Pin 5)       | Switching function hysteresis                     | 504   | 0        | Float32T  | 4 Bytes | rw            | 2.0                  | 0.0 to 100.0  |        |        | %    |
| Setpoint 1 (Pin 5)       | Setpoint 1  | 505   | 0        | Float32T  | 4 Bytes | rw            | 70.0                 | 0.0 to 100.0  |        |        | %    |
| Setpoint 2 (Pin 5)       | Setpoint 2  | 506   | 0        | Float32T  | 4 Bytes | rw            | 30.0                 | 0.0 to 100.0  |        |        | %    |
| Set time delay (Pin 5)   | Time delay when switching on the output           | 507   | 0        | UIntegerT | 2 Bytes | rw            | 0<br>(0.0 s)         | 0 to 1000<br>(0.0 s to 100.0 s)   | 0.1    | 0.0    | s    |
| Reset time delay (Pin 5) | Time delay when switching off the output          | 508   | 0        | UIntegerT | 2 Bytes | rw            | 0<br>(0.0 s)         | 0 to 1000<br>(0.0 s to 100.0 s)   | 0.1    | 0.0    | s    |
| Frequency min (Pin 5)    | Lower limit for frequency output function         | 520   | 0        | Float32T  | 4 Bytes | rw            | 0.0                  | 0.0 to 1000.0   |        |        | Hz   |
| Frequency max (Pin 5)    | Upper limit for frequency output function         | 521   | 0        | Float32T  | 4 Bytes | rw            | 1000.0               | 5.0 to 2000.0   |        |        | Hz   |
| Freq scale min (Pin 5)   | Lower scaling value for frequency output function | 522   | 0        | Float32T  | 4 Bytes | rw            | 0.0                  | 0.0 to 100.0  |        |        | %    |

| Name                   | Description                                       | Index | Subindex | Data type | Length  | Access rights | Default settings  | Value range   | Factor | Offset | Unit |
|------------------------|---|-------|----------|-----------|---------|---------------|-------------------|---|--------|--------|------|
| Freq scale max (Pin 5) | Upper scaling value for frequency output function | 523   | 0        | Float32T  | 4 Bytes | rw            | 100.0             | 10.0 to 100.0   |        |        | %    |
| Reset input            | Trigger mode reset input (for volume totalizer)   | 540   | 0        | UIntegerT | 1 Byte  | rw            | (0) Edge low-high | (0) Edge low-high<br>(1) Edge high-low<br>(2) Static high<br>(3) Static low |        |        |      |
| <b>Display</b>         |   |       |          |           |         |               |                   |   |        |        |      |
| Orientation            | Rotation of the display                           | 550   | 0        | UIntegerT | 1 Byte  | rw            | (0) 0°            | (0) 0°<br>(1) 180°  |        |        |      |
| <b>Simulation</b>      |   |       |          |           |         |               |                   |   |        |        |      |
| Select                 | Select simulation off or on                       | 701   | 0        | UIntegerT | 1 Byte  | rw            | (0) Off           | (0) Off<br>(1) On   |        |        |      |
| Flow value             | Simulated value for flow                          | 703   | 0        | Float32T  | 4 Bytes | rw            | 100.0             | 0.0 to 100.0  |        |        | %    |
| Temp. value            | Simulated value for temperature                   | 704   | 0        | Float32T  | 4 Bytes | rw            | 50.0              | 0.0 to 100.0  |        |        | %    |

## 5 System Commands

| Name                     | Description                              | Index | Subindex | Data Type | Length | Access rights | Value Range |
|--------------------------|--|-------|----------|-----------|--------|---------------|-------------|
| Param Download Start     | Start block mode transfer of variables   | 2     | 0        | Button    | 1 Byte | wo            | 3           |
| Param Download Store     | Finish block mode transfer of variables  | 2     | 0        | Button    | 1 Byte | wo            | 5           |
| Device Reset             | Device is restarted                      | 2     | 0        | Button    | 1 Byte | wo            | 128         |
| Restore Factory Settings | Restore all variables to factory setting | 2     | 0        | Button    | 1 Byte | wo            | 130         |
| Set Pin 2 Work           | Set Pin 2 to normal mode                 | 2     | 0        | Button    | 1 Byte | wo            | 160         |
| Set Pin 2 20mA           | Set Pin 2 to 20 mA                       | 2     | 0        | Button    | 1 Byte | wo            | 161         |
| Set Pin 2 10V            | Set Pin 2 to 10 Volt                     | 2     | 0        | Button    | 1 Byte | wo            | 162         |
| Set Pin 5 Back           | Set Pin 5 to normal mode                 | 2     | 0        | Button    | 1 Byte | wo            | 168         |
| Set Pin 5 Low            | Set Pin 5 to inactive                    | 2     | 0        | Button    | 1 Byte | wo            | 169         |
| Set Pin 5 High           | Set Pin 5 to active                      | 2     | 0        | Button    | 1 Byte | wo            | 170         |
| Set Pin 5 Freq           | Set Pin 5 to 100% frequency              | 2     | 0        | Button    | 1 Byte | wo            | 171         |
| Lock Hmi access          | Lock the local HMI                       | 2     | 0        | Button    | 1 Byte | wo            | 176         |
| Unlock Hmi access        | Unlock the local HMI                     | 2     | 0        | Button    | 1 Byte | wo            | 177         |

## 6 Events

| Code              | Name                                | Type    | Description   |
|-------------------|-------------------------------------|---------|---|
| 16384 d / 40 00 h | Internal MCU temperature (exceeded) | Error   | Internal processor temperature exceeds the limit of 85 ° C  |
| 20480 d / 50 00 h | Device error (hardware)             | Error   | Error in the hardware of the device<br>(Replace device)   |
| 20752 d / 51 10 h | Supply voltage (exceeded)           | Warning | The supply voltage exceeds the limit of 30.5 volts<br>(Check tolerance)                                     |
| 20753 d / 51 11 h | Supply voltage (undershoot)         | Warning | The supply voltage falls below the limit of 17.5 volts<br>(Check tolerance)                                 |
| 30480 d / 77 10 h | Short circuit                       | Error   | (Check installation)  |
| 35841 d / 8C 01 h | Simulation is active                | Warning | The internal simulation of the device is active<br>(Check device status)                                    |
| 35856 d / 8C 10 h | Process value above the valid range | Warning | The flow speed exceeds the permissible value of 3.000 m / s<br>(The process value is uncertain)             |
| 36350 d / 8D FE h | Test Event 1                        | Error   | Event appears when index 252 is set to the value 0<br>Event disappears when index 252 is set to the value 1 |
| 36351 d / 8D FF h | Test Event 2                        | Error   | Event appears when index 252 is set to the value 2<br>Event disappears when index 252 is set to the value 3 |

## 7 Error Codes

| Code              | Name   |
|-------------------|--|
| 32768 d / 80 00 h | Device Application Error no details              |
| 32785 d / 80 11 h | Index not available                              |
| 32786 d / 80 12 h | Subindex not available                           |
| 32800 d / 80 20 h | Service temporarily not available                |
| 32801 d / 80 21 h | Service temporarily not available local control  |
| 32802 d / 80 22 h | Service temporarily not available device control |
| 32803 d / 80 23 h | Write access denied                              |
| 32816 d / 80 30 h | Parameter value out of range                     |
| 32817 d / 80 31 h | Parameter value above limit                      |
| 32818 d / 80 32 h | Parameter value below limit                      |
| 32819 d / 80 33 h | Parameter length overrun                         |
| 32820 d / 80 34 h | Parameter length underrun                        |
| 32821 d / 80 35 h | Function not available                           |
| 32822 d / 80 36 h | Function temporarily not available               |
| 32832 d / 80 40 h | Invalid Parameter set                            |
| 32833 d / 80 41 h | Inconsistent Parameter set                       |
| 32898 d / 80 82 h | Application not ready                            |