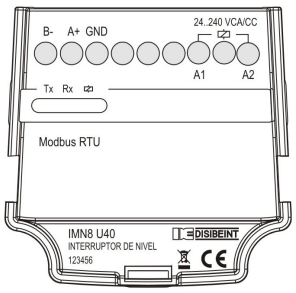
# KNT8

MODULE FOR COMMUNICATION RS-485




| | |
|---|---|
| **General** | |
| Description | The conductive level electrodes, magnetic level switches and magnetic level transducers provided with connection box can exchange the standard output module by the KNT8 module that allows to establish a communication RS-485, Modbus RTU protocol, with other devices of similar properties. |
| Characteristics | RS485 communication port to read and write the parameters. Protocol Modbus RTU. |
| Default vale | 9600 bps, 8, N, 1 |
| Reading the temperature | Available in models with Ø12 tube or higher. |
| **Power supply** | |
| Code and rank | U40: 24 .. 240 VAC/DC |
| Frequency | 47 .. 63 Hz |
| Consumption | 0,2 .. 0,7 VA |
| **Control module** | |
| Reference | KNT8 U40 |
| Status Indication | |
| Configuration | The module KNT8 is configured by default with peripheral number 1 (decimal) and communication mode 4 (9600 bps, 8, N, 1). Using the command to change the device number it is possible to assign any other number (maximum FF hexadecimal, 255 decimal). |
| Registers table | Level electrodes NCV8: see page 2<br>Magnetic switches IMN8: see page 3<br>Magnetic transducers TMN8: see page 4 |

## NCV8 · Conductive level electrodes

| | |
|---|---|
| Application | Detection of one or more level points in conductive liquids (maximum 4). |
| Working mode | While the liquid is not in contact with the electrode, the value of the output is 0.<br>When the liquid is in contact with the electrode, the value of the output is 1. |
| Detection range | Adjustable sensitivity between 1 and 50 Kohm. |

### Set up

| Magnitude | Register | Bytes No | Function | Remarks |
|---|---|---|---|---|
| Peripheral Nr. | 0x00 | 2 | 3, 6, 16 (0x10) | 1..255 |
| Comm parameters | 0x01 | 2 | 3, 6, 16 (0x10) | (See table) |
| ID_Manufacturer | 0x02 | 4 | 3 | Manufacturer code |
| ID_ProductCode | 0x04 | 8 | 3 | ERP code |
| ID_Verify | 0x08 | 2 | 3 | |
| HW_Version | 0x09 | 2 | 3 | |
| SW_Version | 0x0A | 2 | 3 | |
| MODEL_Serie | 0x0B | 4 | 3 | |
| SERIAL_Number | 0x0D | 6 | 3 | Serial no. |
| Sensibility | 0x10 | 2 | 3, 6, 16 (0x10) | 1..50 Kohm |
| TAG | 0x12 | 16 | 3, 16 (0x10) | <= 16 char. |
| Reference | 0x1A | 50 | 3 | <= 50 char. |

### Communication parameters

| Command | bps | Bits | Parity | StopBit |
|---|---|---|---|---|
| 0 | 9600 | 8 | E | 1 |
| 1 | 19200 | 8 | E | 1 |
| 2 | 9600 | 8 | N | 2 |
| 3 | 19200 | 8 | N | 2 |
| 4 | 9600 | 8 | N | 1 |
| 5 | 19200 | 8 | N | 1 |

### Data

| Magnitude | Register | Bytes No | Function | Remarks |
|---|---|---|---|---|
| Electrode L1 | 0x02 | 2 | 4 | True/False |
| Electrode L2 | 0x03 | 2 | 4 | True/False |
| Electrode L3 | 0x04 | 2 | 4 | True/False |
| Electrode L4 | 0x05 | 2 | 4 | True/False |

## IMN8 · Magnetic level switches

| | |
|---|---|
| Application | Detection of one or more level points in liquids (maximum 4) and/or process temperature. |
| Working mode | When the float is at or above a contact, the corresponding output is 1.<br>At empty deposit, the output of all contacts is 0.<br>At a full tank, the output of all contacts is 1. |
| Restrictions | The combination of quantity and type of contacts defines the operation of the module. |

### Set up

| Magnitude | Register | Bytes No | Function | Remarks |
|---|---|---|---|---|
| Peripheral Nr. | 0x00 | 2 | 3, 6, 16 (0x10) | 1..255 |
| Comm parameters | 0x01 | 2 | 3, 6, 16 (0x10) | (See table) |
| ID_Manufacturer | 0x02 | 4 | 3 | Manufacturer code |
| ID_ProductCode | 0x04 | 8 | 3 | ERP code |
| ID_Verify | 0x08 | 2 | 3 | |
| HW_Version | 0x09 | 2 | 3 | |
| SW_Version | 0x0A | 2 | 3 | |
| MODEL_Serie | 0x0B | 4 | 3 | |
| SERIAL_Number | 0x0D | 6 | 3 | Serial no. |
| TAG | 0x12 | 16 | 3, 6, 16 (0x10) | <= 16 char. |
| Reference | 0x1A | 50 | 3 | <= 50 char. |

### Communication parameters

| Command | bps | Bits | Parity | StopBit |
|---|---|---|---|---|
| 0 | 9600 | 8 | E | 1 |
| 1 | 19200 | 8 | E | 1 |
| 2 | 9600 | 8 | N | 2 |
| 3 | 19200 | 8 | N | 2 |
| 4 | 9600 | 8 | N | 1 |
| 5 | 19200 | 8 | N | 1 |

### Data

| Magnitude | Register | Bytes No | Function | Remarks |
|---|---|---|---|---|
| Contact L1 | 0x02 | 2 | 4 | True/False |
| Contact L2 | 0x03 | 2 | 4 | True/False |
| Contact L3 | 0x04 | 2 | 4 | True/False |
| Contact L4 | 0x05 | 2 | 4 | True/False |
| Temperature | 0x06 | 4 | 4 | ºC (IEEE754) |

## TMN8 · Magnetic level transducers

| | |
|---|---|
| Application | Continuous detection of the level in liquids and/or process temperature. |
| Working mode | With the empty tank, the output indicates 0% capacity. As the float moves due to the push of the liquid, the output indicates the proportional percentage of the capacity until reaching 100%. |

### Set up

| Magnitude | Register | Bytes No | Function | Remarks |
|---|---|---|---|---|
| Peripheral Nr. | 0x00 | 2 | 3, 6, 16 (0x10) | 1..255 |
| Comm parameters | 0x01 | 2 | 3, 6, 16 (0x10) | (See table) |
| ID_Manufacturer | 0x02 | 4 | 3 | Manufacturer code |
| ID_ProductCode | 0x04 | 8 | 3 | ERP code |
| ID_Verify | 0x08 | 2 | 3 | |
| HW_Version | 0x09 | 2 | 3 | |
| SW_Version | 0x0A | 2 | 3 | |
| MODEL_Serie | 0x0B | 4 | 3 | |
| SERIAL_Number | 0x0D | 6 | 3 | Serial no. |
| TAG | 0x12 | 16 | 3, 6, 16 (0x10) | <= 16 char. |
| Reference | 0x1A | 50 | 3 | <= 50 char. |

### Communication parameters

| Command | bps | Bits | Parity | StopBit |
|---|---|---|---|---|
| 0 | 9600 | 8 | E | 1 |
| 1 | 19200 | 8 | E | 1 |
| 2 | 9600 | 8 | N | 2 |
| 3 | 19200 | 8 | N | 2 |
| 4 | 9600 | 8 | N | 1 |
| 5 | 19200 | 8 | N | 1 |

### Data

| Magnitude | Register | Bytes No | Function | Remarks |
|---|---|---|---|---|
| Value | 0x00 | 4 | 4 | % (IEEE754) |
| Temperature | 0x06 | 4 | 4 | ºC (IEEE754) |