The comX communication module is designed for integration in automation devices e.g. robot controllers, PLCs or drives to add a network interface. All communication tasks are executed autonomously in the module - independent of the processor of the target device.

Process data exchange is done via a Dual-Port-Memory, either as 8-/16-bit bus interface or as 50 MHz SPI interface.

comX supports all major Real-Time Ethernet protocols as Master or Slave and covers all network specific demands in a single module. For support of a line topology the module is equipped with two Ethernet ports. A change of the communication protocol is done by simply loading a different firmware and adding a software license upgrades to a master.

Besides Real-Time Ethernet communication there is an integrated Webserver as well as an additional transparent Ethernet channel available, to realize own IT solutions in the host processor of the automation device. Moreover, an upgrade with integrated OPC UA server and a MQTT client is available.
The Hilscher Platform Strategy provides the whole range of communication solutions to the user – from standardized PC card up to the integration of the multi-protocol chip netX. All solutions – whether Master or Slave – have the same interface to the application and use the same tools.

After single integration of the application interface the change to a different hardware format or a different physical host interface is a purely hardware optimization process without fundamental changes of the software structure.

All comX modules have the same dimensions and are pin-compatible to each other. Thus you can cover the whole range of network protocols with exactly one baseboard design. Thanks to common interfaces you can react quickly and most flexible to new market requirements - with a maximum of time- and cost-savings.

You can choose between the following types:
- with integrated network connector
- with network interface to the baseboard
- with integrated switch for slave address

The host connection is done either via a parallel 8-/16-bit bus or a fast SPI interface with up to 50 MHz.

The Hilscher comX modules are available as universal modules or as slave only modules. The universal module can be used both as Master and as Slave. The Slave modules are specifically designed for demanding field devices. They provide integrated rotary switches for the slave address and a fast SPI interface to the host.

For a quick and easy integration Hilscher offers a wide range of device drivers. Besides a C-Toolkit free of charge, drivers for all relevant operating systems are available – in most cases as source code.

As specialist for industrial communication Hilscher offers the largest selection of protocols used in the factory automation. Besides traditional Fieldbus all major Real-Time Ethernet protocols are available - that’s as Master or Slave. For selected Real-Time Ethernet protocols the firmware update can be done via an integrated Webserver. Furthermore the data exchange via Ethernet or TCP/IP is supported.

Software structure comX 51

ComX 51 offers three separate channel to the host, which can be accessed via 50MHz SPI.

Channel 0: Cyclic and acyclic Real-Time Ethernet data
Channel 1: Ethernet channel with TCP socket or Raw Ethernet interface
Channel 2: IoT data via OPC UA / MQTT
Technical Data

### Product Overview

**Parameter** | **Value**
--- | ---
Operating Temperature | -20 … +65 °C
Operating Voltage | +3.3 V / 300 - 700 mA
Dimensions (L x W x H) | 70 x 30 x 21.5 mm
Processor | netX 10 / netX 50 / netX 51 / netX 100
System Interface | 8-/16 bit DPM or 50 MHz SPI
Weight | max. 40 g

### Variant

<table>
<thead>
<tr>
<th>Function</th>
<th>CA</th>
<th>CN</th>
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<tbody>
<tr>
<td>angled network connector</td>
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<td>Connector to the baseboard</td>
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### System Interface

<table>
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<tr>
<td>CE Sign</td>
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<tr>
<td>Emission</td>
<td>EN 61000-6-4</td>
</tr>
<tr>
<td>Noise Immunity</td>
<td>EN 61000-6-2 (1999)</td>
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<tr>
<td>Mounting</td>
<td>metal mounting blocks</td>
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<td>Connector</td>
<td>Samtec SFM-125-02-S-D-A</td>
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<tr>
<td>LED Indicators</td>
<td>SYS, COM 0, COM 1, Link, Rx/Tx</td>
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</table>

### System bus

<table>
<thead>
<tr>
<th>Value</th>
<th>Dual-Port-Memory 8-/16 bit</th>
<th>SPI 50 MHz (COMX 10, COMX 51)</th>
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### Product Name

<table>
<thead>
<tr>
<th>Brief Description</th>
<th>COMXEB</th>
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<tr>
<td>COMX Evaluationboard - For evaluation of all comX types; incl. Software package</td>
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### Article

<table>
<thead>
<tr>
<th>Slave only</th>
<th>Universal Module</th>
<th>SPI</th>
<th>DPM</th>
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<tbody>
<tr>
<td>comX 10</td>
<td>COMX 10CA</td>
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<td>comX 51</td>
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<td>comX 100</td>
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<tr>
<td>comX 100</td>
<td>COMX 100CN</td>
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Note: All technical data may be changed without further notice.

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