

# UNICOMM

UNIVERSAL COMMUNICATION  
INTERFACE MODULES



30 YEARS

LEVEL



OUR PROFESSION IS YOUR LEVEL

SYSTEM COMPONENTS

## UNICOMM UNIVERSAL COMMUNICATION INTERFACE MODULES

### MAIN FEATURES APPLICATIONS

- Transferring measurement data to PC
  - Connecting field transmitters to the USB or RS485 input of a PC
  - DIN rail mountable version
  - No need for power supply
  - Galvanic isolation
  - IP 20 protection
- Communication interface (modem) between HART-capable transmitters and PC
  - Minimal system configuration: free USB port, Windows XP operation system



### GENERAL DESCRIPTION

The **UNICOMM** interface modules are able to establish communication line between HART-capable field devices and process controller computer. The communication line can be USB or RS485. The **UNICOMM HART** modems are applicable not only for NIVELCO transmitters, but for all HART-capable transmitters which use standard HART communication. The device is galvanically isolated from both (USB and HART) sides, when it is used as a HART-USB modem, connected into the USB input of a PC, the modem does not need external power supply. The **UNICOMM SAK-305** modules can be connected into a suitable device with RS485 interface input, used as a HART-RS485 modem. The communication protocol is HART on the RS485 line. In this case the device needs external power supply. The Ex versions can be connected to transmitters placed in hazardous areas.

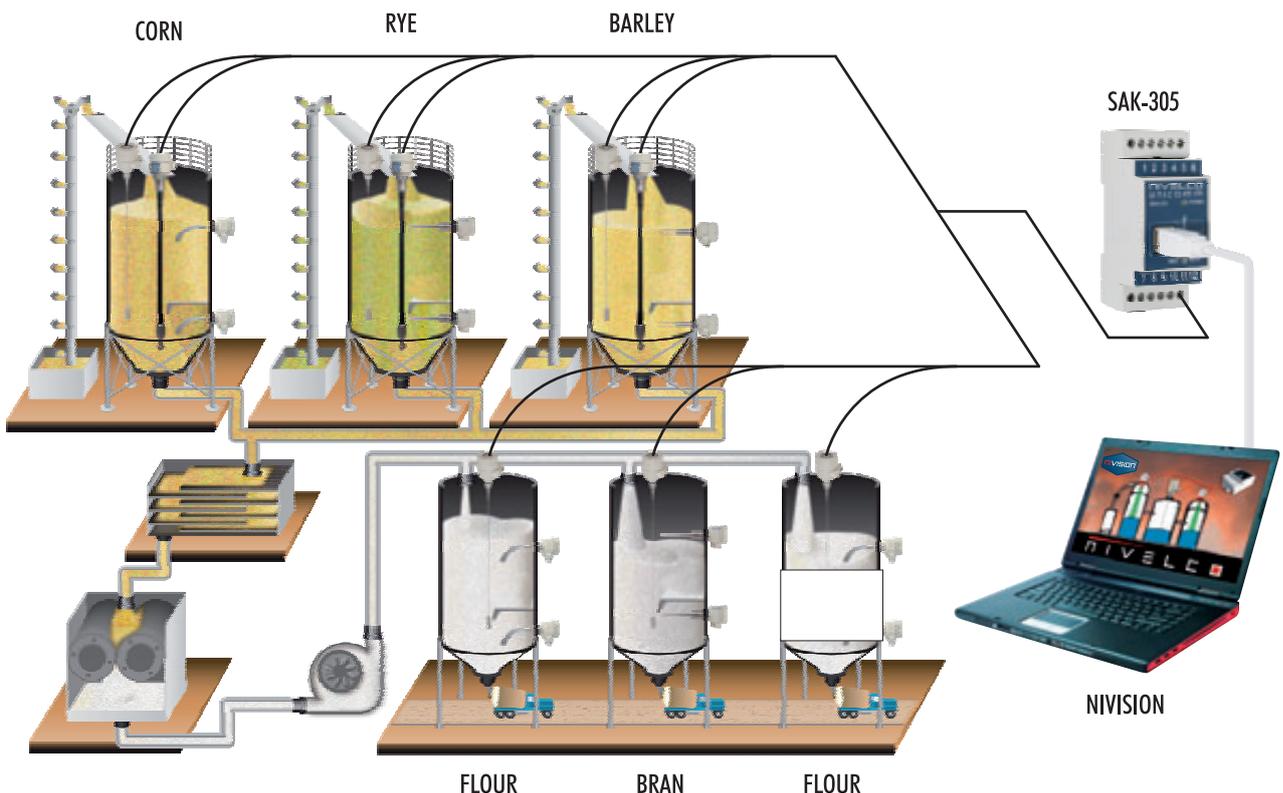
### HART COMMUNICATIONS

The addressing system of the HART communication can handle maximum 15 devices, so maximum 15 transmitters can be connected into one HART loop. If there are multiple transmitters in one HART loop, the devices need to have different HART „Short address“. In one HART loop there cannot be two units with the same „Short address“. Using HART communication the creation of special measurement loops is very simple, allowing to monitor multiple physical parameters. Level, temperature, pressure, or even flow values of one measurement loop can be transmitted easily with the **UNICOMM** communication modules.

### NIVISION

#### PROCESS VISUALIZATION SOFTWARE

Using the **UNICOMM** modems the HART-capable field transmitters can be connected to NIVELCO's **NIVISION** process visualization software to indicate parameters of a process control system graphically on a process controller PC. The process, the measured values or any further processed values can be visualized also in tabular form with **NIVISION**. The **NIVISION** performs data logging, trend monitoring, database handling and various other tasks in addition to a basic visualization. The software is sold as a custom-tailored product.



## TECHNICAL DATA

Type	SAT – 304		SAK – 305 – 2	SAK – 305 – 6 Ex
Input			HART	
Output	USB		USB / RS485 (HART over RS485)	
Power supply	Supplied from USB		Supplied from USB / 24V DC (10-30 V) nominal voltage	
Current consumption	< 100 mA		USB: current consumption < 60 mA RS485: power consumption < 1.5 W	
Ambient temperature	– 25 °C ... + 55 °C (– 13 °F ... + 131 °F)		– 20 °C ... + 70 °C (– 4 °F ... + 158 °F)	
Housing material	Polystyrene		PPO	
Electrical connection	PC	Connector	USB 1.1 „B” socket	USB 1.1 „B” socket / RS485: Screw terminal
		Cable	USB „A-B” 1.8 m (6 feet)	USB „A-B” 1.8 m (6 feet) / RS485: Twisted shielded pair max. 1000 m (0.6 mile)
	HART line	Connector	Test clip	Screw terminal
		Cable	Spiral cable 0.6 m (1.1 m) / 2 feet (3.6 feet)	Twisted shielded pair with 0.5...2.5 mm <sup>2</sup> (0.0007...0.004 square inch) wire cross section Resistance max. 75 Ω, Capacitance max. 200 nF
Mechanical connection	-		DIN EN 60715 rail mountable	
Ingress protection			IP 20	
Electrical protection			Class III.	
Ex marking	-		ATEX II (1) G [ Ex ia Ga ] IIC	
Mass			0.1 kg (0.25 lb)	

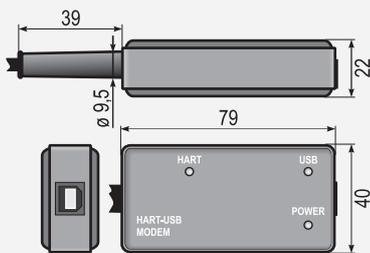
### Special data for Ex certified models

Ex marking	ATEX II (1) G [ Ex ia Ga ] IIC	
Intrinsically safe data	U <sub>i</sub> =30V, I <sub>i</sub> =100mA, P <sub>i</sub> =1W; L <sub>i</sub> =200μH, C <sub>i</sub> =2nF	
U <sub>m</sub>	253V AC	

## DIMENSIONS

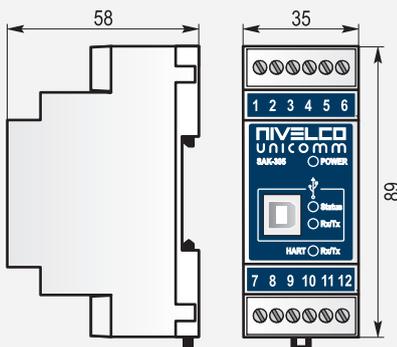
## OPERATION

### UNICOMM SAT – 304



The **UNICOMM SAT-304** HART modem requires a 250 Ω terminal resistance to be connected into the HART loop. The unit does not need external power supply it got power supply from the USB port. If the device is connected to the USB port the POWER LED is green in active mode and in passive mode the POWER LED is red. The communication of USB and HART lines are indicated independently from each other. The Rx/Tx LED of USB and Rx/Tx LED of HART lit red or green depending on the communication direction, and do not light if there is no communication on the line.

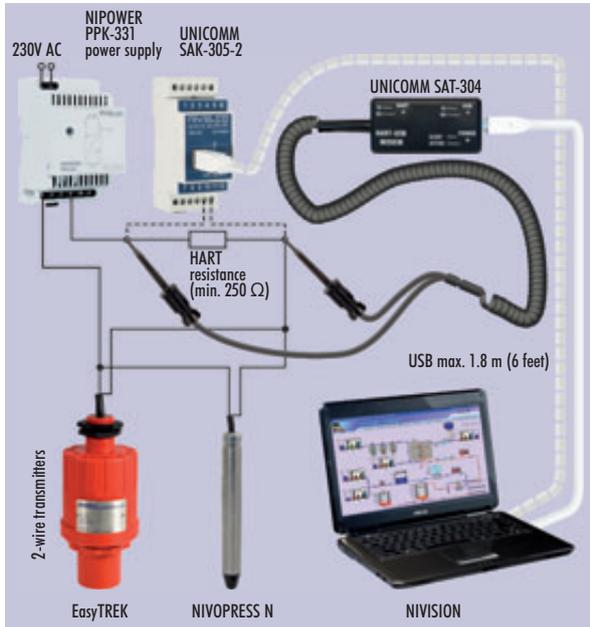
### UNICOMM SAK – 305



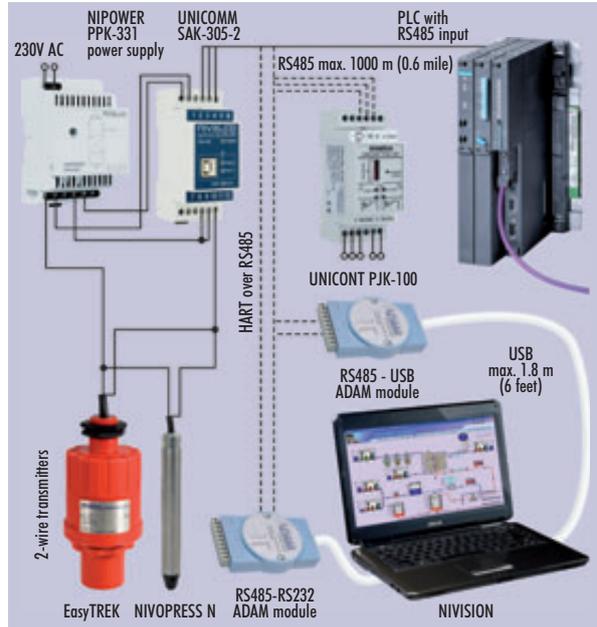
The **UNICOMM SAK-305** module is applicable as a HART-USB modem, or as a HART-RS485 modem. Without USB connection, it operates as a HART-RS485 modem. If it is connected with the USB connector and got power supply from USB it switches automatically into HART-USB modem mode. If USB cable is removed, it returns into HART-RS485 modem mode. The POWER LED indicates the existence of the external power supply. If external power supply is connected, POWER LED is green in both modem modes. The communication of USB and HART lines are indicated independently from each other. The Rx/Tx LED of USB and Rx/Tx LED of HART lit red or green depending on the communication direction, and do not light if there is no communication on the line.

## APPLICATION EXAMPLES

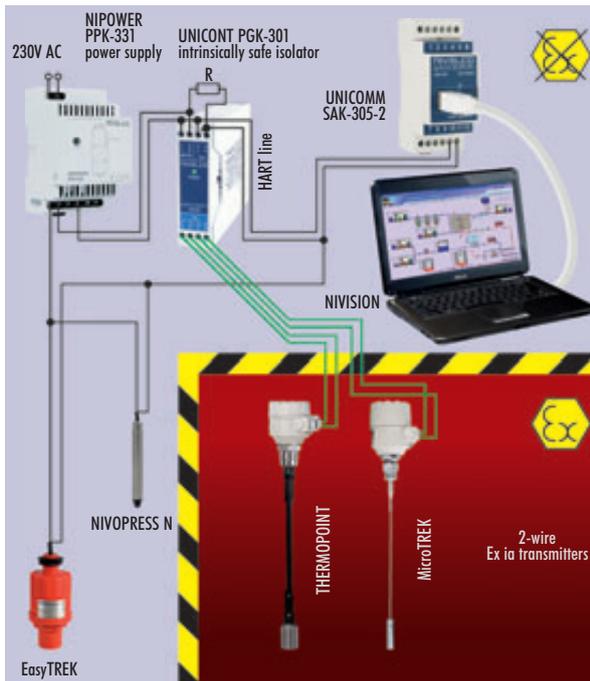
### SAT-304, SAK-305 with USB communications



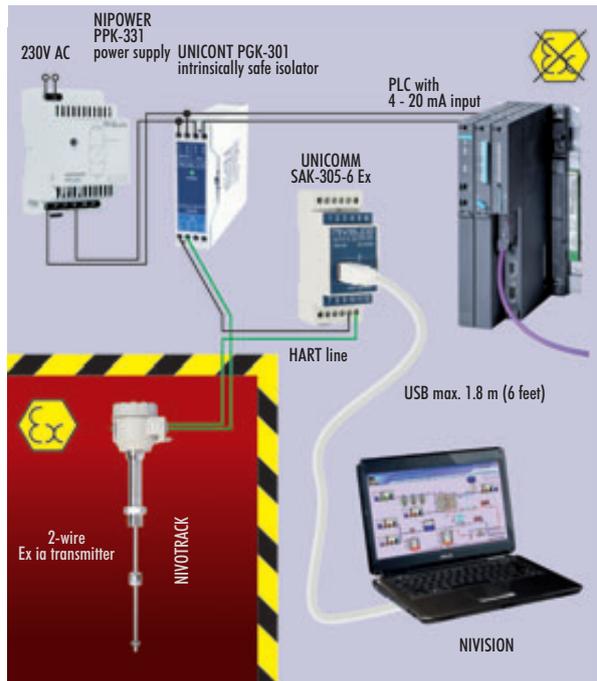
### SAK-305 with RS485 communications



### SAK-305-2 together with UNICONT PGK-301-□ intrinsically safe isolator with HART interface



### SAK-305-6 together with UNICONT PGK-301-□ intrinsically safe isolator without HART interface



## ORDER CODES (NOT ALL COMBINATIONS AVAILABLE)

### UNICOMM universal communication modules

UNICOMM SA ■ - 30 ■ - ■

Type	Code	Communications	Code	Output / Ex	Code
Clips connector	T	USB	4	Normal	2
Rail mountable	K	USB / RS485	5	Ex ia	6

## ACCESSORIES

- UNICONT PGK-301-□ Ex
- NIPOWER PPK-331

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