MultiCONT

MULTICHANNEL PROCESS CONTROLLER

NIVELCO

The **MultiCONT** unit is a universal interface between NIVELCO's HART®-capable intelligent level transmitters and other elements of the process control systems like the PCs, PLCs, displays, and actuators. Besides its role as an interface, the MultiCONT can power the 2-wire transmitters while handling complex control tasks. The large LCD or OLED dot-matrix display is comprehensive and informative. As a special feature, it can display the echo map when the MultiCONT works with an **EchoTREK**, **PiloTREK**, **MicroTREK**, or **EasyTREK** transmitter. The **MultiCONT** supports communication with 15 standard HART®-capable 2 and 4-wire NIVELCO transmitters or 4 Ex ia HART®-capable 2-wire NIVELCO transmitters. If the number of transmitters in a system exceeds the number of transmitters a MultiCONT can handle, other **MultiCONT** units can be added to the system via RS485. The transmitters can be programmed remotely, and their parameters and the measured data can also be downloaded using a **MultiCONT**. Outputs, such as the 4…20 mA, relays, and digital outputs, can be controlled using measured and calculated values.

The internal current outputs (*up to 2*) of the **MultiCONT** can transmit and even modify the information supplied by the transmitters. The built-in relays (*up to 5*) can be freely programmed and assigned to the transmitters.

FEATURES

- Provides a flexible solution to commissioning process control systems containing HART®-based intelligent (*level, temperature or pressure*) transmitters
- Galvanically isolated 4…20 mA outputs for transmitters
- Depending on the type of the transmitters, 1 to 15 (*standard*) or 1 to 4 (*Ex ia*) channels
- Highly informative large LCD or OLED display
- Ex ia variant
- Simple 6-button programming
- Trend logging in internal memory or SD memory card
- USB connector for downloading data from internal FLASH memory
- Universal interface module expansion via RS485
- "Echo-Map" for EchoTREK, PiloTREK, MicroTREK and EasyTREK ultrasonic transmitters
- 5 years warranty

PRN–200

APPLICATIONS

- Remote programming, displaying of transmitters data
- Power supply for 2-wire transmitters
- Process controller for HART®-capable transmitters
- Displaying measured data in numerical and bargraph mode
- Data transmission via RS485 (*via HART® or Modbus protocol*)
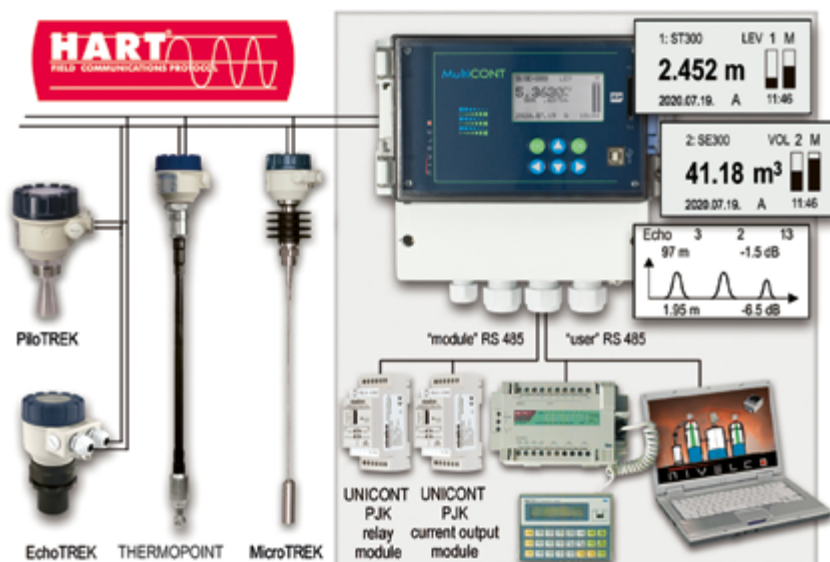- Simple data-logging function
- Trend or flow-measurement logging

CERTIFICATES

- ATEX [Ex ia G]
- ATEX [Ex ia D]
- IEC Ex [Ex ia G]
- INMETRO [Ex ia G]
- UKCA Ex [Ex ia G]

Compatible transmitters[(1)]

- **PiloTREK**
  – Non-contact Microwave Level Transmitters
- **EchoTREK / EasyTREK**
  – Ultrasonic Level Transmitters
- **MicroTREK**
  – Guided Microwave Level Transmitters
- **NIVOTRACK**
  – Magnetostrictive Level Transmitters
- **NIVOPRESS**
  – Hydrostatic Level Transmitters
- **THERMOCONT**
  – Temperature Transmitters
- **THERMOPOINT**
  – Multipoint Temperature Transmitters
- **AnaCONT**
  – Analytical Transmitters

[(1)] Compatible with all NIVELCO instruments with HART® output, see MultiCONT programming manual for more information.

A TYPICAL NETWORK CONTROLLED BY A MultiCONT

HART®

1: ST300   LEV 1 M
2.452 m
2020.07.19.   A   11:46

2: SE300   VOL 2 M
41.18 m³
2020.07.19.   A   11:46

Echo   3   2   13
97 m   -1.5 dB
1.95 m   -6.5 dB

PiloTREK

"module" RS 485   "user" RS 485

UNICONT PJK relay module   UNICONT PJK current output module

EchoTREK   THERMOPOINT   MicroTREK

TECHNICAL DATA

MultiCONT P□□–2□□–□	
Power supply / power consumption / max. supply voltage	85…255 V AC 50…60 Hz / 12 VA / 255 V_{eff} ; 11.4…28 V AC 50…60 Hz / 12 VA / 28 V_{eff} ; 11.4…40 V DC / 11 W / 40 V DC
Supply voltage for transmitters	30 V DC / 60 mA (Ex variant: 25 V DC / 22 mA)
Graphic display	128 × 64 dot-matrix (LCD / OLED)[1]
Relay	Max. 5, SPDT 250 V AC, AC1, 5 A
Analog output	Max. 2, galvanically isolated 4…20 mA, max. load: 500 Ω, with overvoltage protection
Number of powered transmitters	Max. 15× standard, or max. 4× Ex

RS485 interface	"user"	Galvanically isolated, HART® and Modbus protocol
	"module"	Galvanically isolated, HART® protocol

Logger unit	Capacity: flash = 65,000 entries; SD card = depending on card size (max. 32 GB)
Housing material	Polycarbonate (PC)
Mounting	Wall-mountable
Ambient temperature	−20…+50 °C (−4…+122 °F)
Ingress protection	IP65
Electrical protection	Class I / Class III
Weight	900 g (~2 lb)

Ex information	

Ex marking	ATEX	⟨Ex⟩ II (1) G [Ex ia Ga] IIB, ⟨Ex⟩ II (1) D [Ex ia Da] IIIC
	IEC Ex	[Ex ia Ga] IIB

Intrinsic safety data	U_o = 30 V; I_o = 140 mA; P_o = 1 W; L_o = 4 mH; C_o = 200 nF; U_m = 253 V
Supply voltage for transmitters	25 V DC / 22 mA
Ambient temperature	−20…+50 °C (−4…+122 °F)

[1] *In the case of OLED, the lifetime of the display depends on the way the user applies the screen saver function and hence it is not covered by the warranty.*

SPECIAL FEATURES

Trend logging *(optional)*

MultiCONT versions with an on-board logger can store the measured values and three additional parameters of the transmitters to the system into the internal flash memory or an SD memory card. There are two logging modes, time-controlled and event-controlled. Monitoring the average, minimum, and maximum value or highest flow values can be used only with NIVELCO transmitters in flow-metering mode. The contents of the internal memory can be accessed via USB with a capacity of 65,000 entries. The unit accepts SD cards up to 32 GB.

NIVISION *(optional)* – Process Visualization Software

RS485-capable versions of the **MultiCONT** can communicate with NIVELCO's **NIVISION** process visualization software to graphically display process control system parameters on a PC. The process, the measured values, or any calculated values can be visualized in tables with **NIVISION**. In addition to basic visualization, **NIVISION** performs data logging, trend monitoring, database handling, and various other tasks. The software is sold as a customizedtailored product.
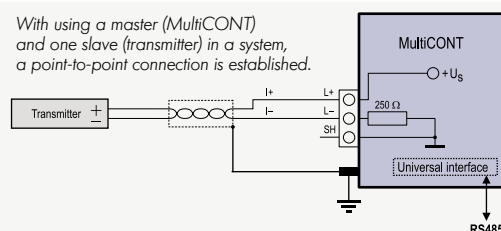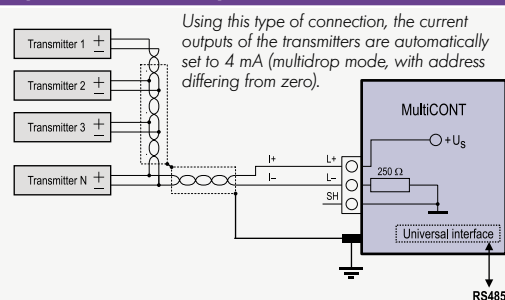
COMMUNICATION BETWEEN MultiCONT & TRANSMITTERS

Point-To-Point connection

With using a master (MultiCONT) and one slave (transmitter) in a system, a point-to-point connection is established.

Multi-point connection (Multidrop). Multiple slaves connected in parallel
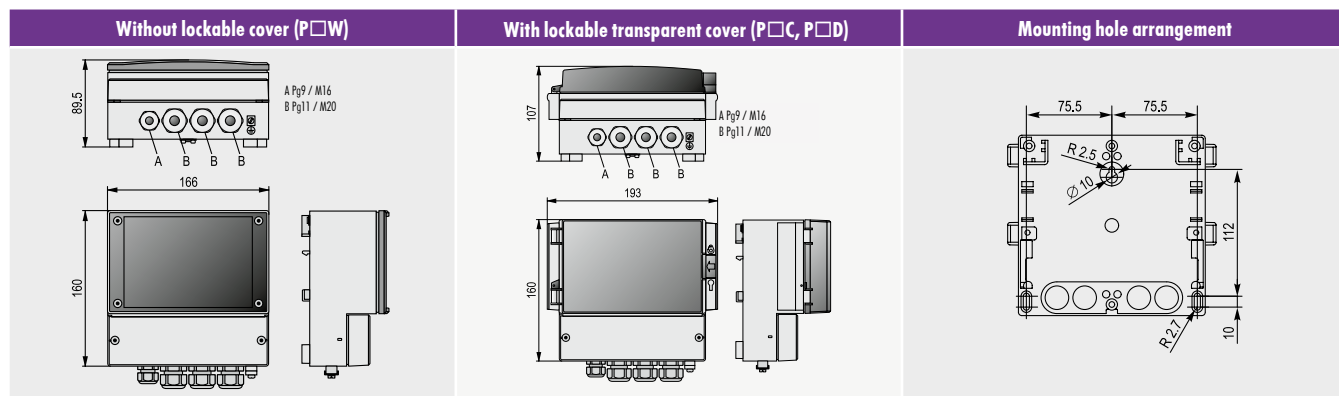

Using this type of connection, the current outputs of the transmitters are automatically set to 4 mA (multidrop mode, with address differing from zero).

OUTPUT TYPES

Outputs	Display only (without relay)	Number of relays				
		1	2	3	4	5
Display only *(without RS485 or current output)*	■	■	■	■	■	■
RS485 Interface	■	■	■	■	■	■
1× 4…20 mA output	■	■	■	■	■	–
2× 4…20 mA outputs	■	■	■	■	■	–
RS485 + 1× 4…20 mA analog output	■	■	■	■	■	–
RS485 + 2× 4…20 mA analog outputs	■	■	■	■	■	–

SYSTEM SET-UP

There is a Master-Slave relation between **MultiCONT** and the connected transmitters. Through the **MultiCONT** the transmitters can be programmed or their parameters checked and modified. Reading the process values of the transmitters is easy to do by the **MultiCONT**. When using **MultiCONT** with multiple transmitters, the units should be addressed with numbers *(Short address)* differing from zero. Using two transmitters with the same Short address is not possible. **MultiCONT** can handle a number of maximum 15 transmitters with HART® communication. When using 2-wire transmitters, the current output of the transmitters will be limited to 4 mA, because of the capacity of the **MultiCONT's** power supply, which is rated at 60 mA with standard transmitters.

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DIMENSIONS

Without lockable cover (P□W)	With lockable transparent cover (P□C, P□D)	Mounting hole arrangement

A Pg9 / M16
B Pg11 / M20

ORDER CODES *(NOT ALL COMBINATIONS AVAILABLE)*

Multichannel process controller

MultiCONT P☐☐**–2**☐☐**–**☐ **(1)**

Type	Code
Standard, non expandable	E
Expandable *(with universal interface module)*	R

Version / Display	Code
IP20 Enclosure / logger / LCD	A
LCD	W
Transparent cover / LCD	C
Transparent cover + logger / LCD	D
OLED	L
Transparent cover / OLED	K
Transparent cover + logger / OLED	N

IP65 Enclosure

Input	Code
Single channel for one unit	1
2 channels for up to 2 units	2
4 channels for up to 4 units	4
8 channels for up to 8 units	8
15 channels for up to 15 units	M

Output		Code
Only display		0
Display	+1× relay	1
	+2× relays	2
	+3× relays	3
	+4× relays	4
	+5× relays	D

		Code
2× 4…20 mA current output		G
2× 4…20 mA current output	+1× relay	H
	+2× relays	J
	+3× relays	K
	+4× relays	9

		Code
2× 4…20 mA + RS485 interface		U
2× 4…20 mA current output + RS485 interface	+1× relay	V
	+2× relays	W
	+3× relays	X
	+4× relays	Y

		Code
1× 4…20 mA current output		F
1× 4…20 mA current output	+1× relay	5
	+2× relays	6
	+3× relays	7
	+4× relays	8
	+5× relays	Q

		Code
1× 4…20 mA + RS485 interface		B
1× 4…20 mA current output + RS485 interface	+1× relay	R
	+2× relays	C
	+3× relays	S
	+4× relays	T
	+5× relays	Z

Code		
A	RS485 interface	
L		+1× relay
M		+2× relays
N	RS485 interface	+3× relays
P		+4× relays
E		+5× relays

Power supply / Certificates	Code
85…255 V AC	1
11.4…28 V AC, 11.4…40 V DC	2
85…255 V AC / [Ex ia G/D] (2)	5
11.4…28 V AC, 11.4…40 V DC / [Ex ia G/D] (2)	6

(1) The order code of an Ex version product should end in "Ex".
(2) Max. 4 channels.

MultiCONT – CONFIGURATION & REQUEST FOR QUOTE

ACCESSORIES

UNICONT – Universal Interface Modules	Order code
2 relay outputs	UNICONT PJK–102–4
1 relay output, 1 current output	UNICONT PJK–111–4
1 current output	UNICONT PJK–110–4
2 current outputs	UNICONT PJK–120–4
EView2 – HART® configuration software *(free download)*	
NIVISION – process visualisation software	

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