MultiCONT

MULTICHANNEL PROCESS CONTROLLER

5 YEARS WARRANTY

NIVELCO

SYSTEM COMPONENTS

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 of 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 a maximum of 15 standard HART®-capable 2 and 4-wire NIVELCO transmitters or four Ex ia HART®-capable 2-wire NIVELCO transmitters. If a MultiCONT is used with NIVELCO's MicroTREK or PiloTREK microwave level transmitters, the maximum number of transmitters in a loop cannot exceed 6 for normal transmitters and 2 for Ex-certifited 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. The large LCD or OLED dot-matrix display handles a wide range of informative display functions. One notable feature is the "Echo-Map "visualization when communicating with NIVELCO's EchoTREK and EasyTREK 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

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

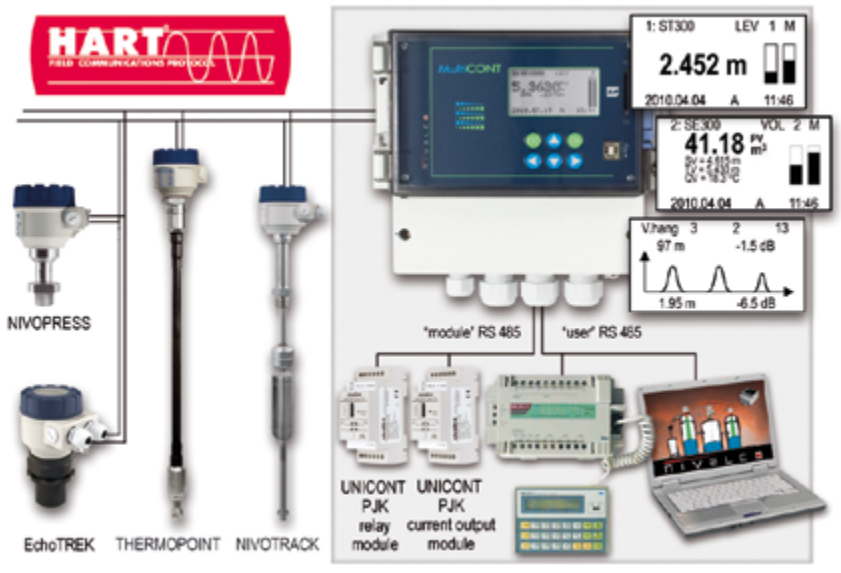
CERTIFICATES

- 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

A typical network controlled by a MultiCONT



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

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)[2]
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 / 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 [1]	[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)

[2] *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 content of the internal memory is retrievable through USB, within the capacity of 65 000 entries. The unit can handle SD cards up to 32 GB capacity.

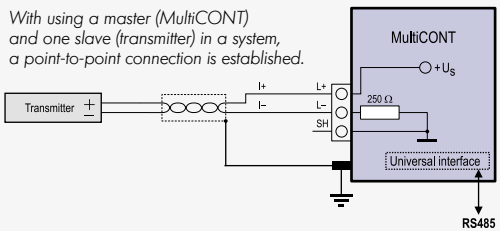
NIVISION *(optional)* Process Visualization Software

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

COMMUNICATION BETWEEN MultiCONT & TRANSMITTERS

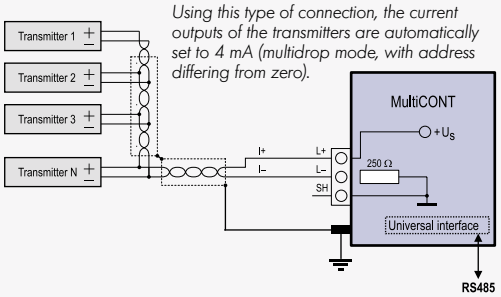
Point-To-Point connection

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).



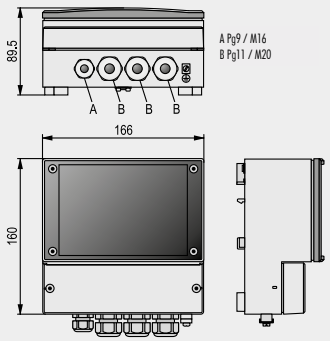
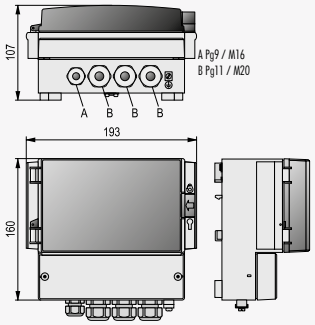
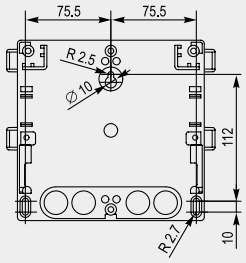
OUTPUT TYPES

Outputs	Display only (without relay)	Number of relays				
		1	2	3	4	5
Only display (w. o. RS485 or current output)	■	■	■	■	■	■
RS485 Interface	■	■	■	■	■	■
1× 4…20 mA output	■	■	■	■	■	
2× 4…20 mA output	■	■	■	■	■	
RS485 + 1× 4…20 mA current output	■	■	■	■	■	
RS485 + 2× 4…20 mA current output	■	■	■	■	■	

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**. In case of 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 max. 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.

DIMENSIONS

Without lockable cover	With lockable, transparent cover	Arrangement of mounting holes
		

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

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

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

Version / Display		Code
IP20 Enclosure / logger / LCD		A
IP65 Enclosure	LCD	W
	Transparent cover / LCD	C
	Transparent cover + logger / LCD	D
	OLED	L
	Transparent cover / OLED	K
	Transparent cover + logger / OLED	N

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
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
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
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

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

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	

NIVELCO PROCESS CONTROL CO.
H-1043 Budapest, Dugonics u. 11.
Tel.: (36–1) 889–0100
E-mail: sales@nivelco.com
NIVELCO.COM