Dosing-Controller

DC155

Ex dosing controller for zone 1, 2
ATEX and IECEx

Characteristics

Installation in hazardous areas

Explosion protection

- II 2G Ex ib IIC T6 Gb
  (Ta = -20°C ... + 40°C)
- II 2G Ex ib IIC T4 Gb
  (Ta = -20°C ... + 70°C)

- Robust housing, protection class IP65
- Universal dosing functions:
  Dosing with digital valves
  Dosing with proportional valve
  Dosing with flow-controlled output
- Graphics-capable LC display 240x128 pixels
- Menu navigation for configuration in plain text, continuous display of preselection, actual quantity, flow rate and totalizer during operation
- Control of the function inputs passively via contactors or actively via intrinsically safe control circuits
- Limitation of max. preselection value
- Continuous rising and falling ramps of analog output signal
- Keypad can be locked, configuration and parameters are code word protected

Additional options

- TTY and Modbus interface
- Pt100 input for temperature compensation of the fluid medium and for displaying the medium temperature
- Separate supply for the analog output

Description

The DC155 dosing controller is a universal dosing device for dosing any liquids or bulk solids in hazardous areas. Thanks to its ease of use, its numeric keypad with large keys (22 x 22 mm), the clearly arranged display and the flexible functionality, both simple and complex metering applications can be implemented directly in the hazardous area without the need for extensive wiring to the control room. External control inputs enable simple remote control of the basic START, STOP and RESET functions. In the event of a power failure, all data in the device is saved and the dosing process can be continued afterwards.

The standard available NAMUR and 24V digital inputs allow coupling with practically any available flow meter system. Analog measurement signals can also be processed as an option. Heavy impacts on pipelines are avoided by means of a continuous start-up and shut-down ramp of the analog valve control signal or by using coarse and fine flow valves.
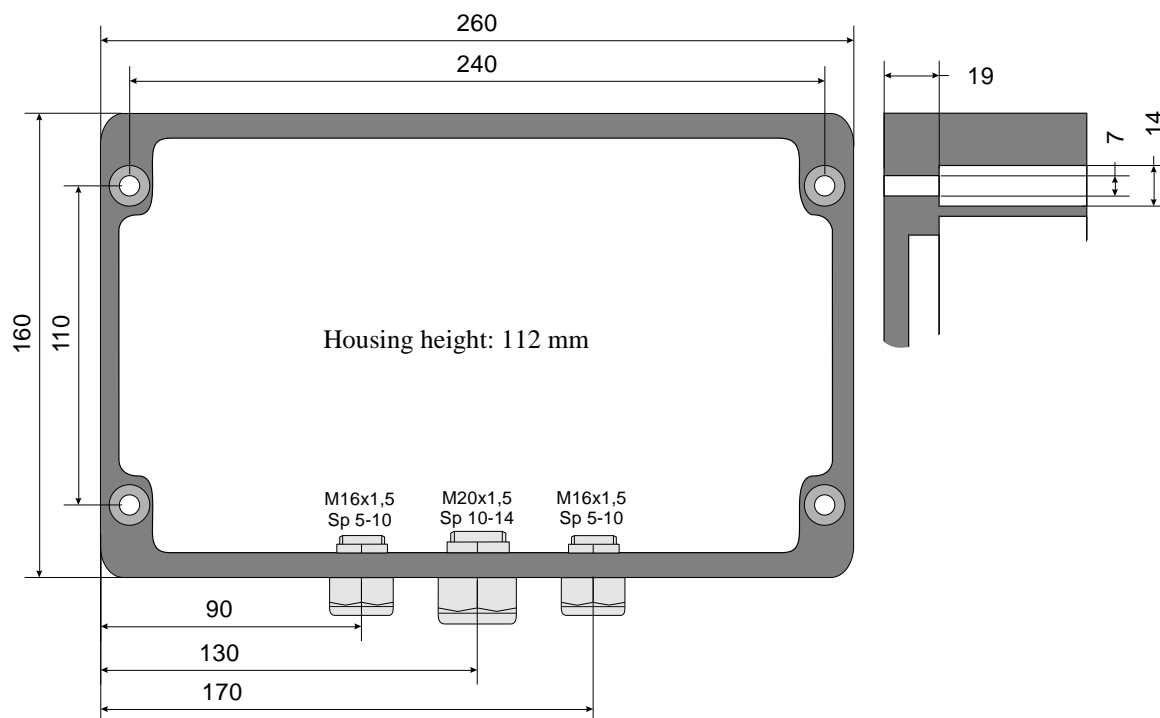
The DC155 also has a fault indicator system for flow and sensor line break monitoring. The flow monitoring can be switched off via adjustable delay times when starting the dosing process and when exceeding or falling below the limit values.

With the "regulated analog output" option, it is possible to implement a regulated dosing control. Without the use of an additional PID controller, a preset target flow rate is regulated with the desired PID behavior.

		Dosing controller DC155
General	Mounting	Inside hazardous area
	Ex-protection	II 2G Ex ib IIC T4/T6 Gb
	Ex-certificates	BVS 18 ATEX E 040 IECEx BVS 18.0031
	Housing protection class	IP65
Mounting	Ambient temperature	-20°C...+40°C at T6 -20°C...+70°C at T4
Housing	Dimensions	L x W x H: 160 mm x 260 mm x 112 mm
	Material	Aluminium lacquered / front foil: polyester
	Tightening torque for cable glands and their cap nuts	M16 x 1,5, cable diameter 5-10 mm: 3 Nm M20 x 1,5, cable diameter 10-14 mm: 4,5 Nm
Electrical Specifications	Main voltage	Intrinsically safety Ex ib IIC
	Power consumption	min.20 mA at 15V = 300 mW (without analog output, TTY/RS485, 2.Namur)
Inputs	NAMUR	Max input frequency: 2 kHz
	24V- Digital input	Threshold : 0-Signal: U < 2 V, 1- Signal: U > 5 V
	Analog input	4-20 mA, load: 15 Ω
	Measuring error	< 0,2 %
	Temperature coefficient	< 0,01 % /K
Outputs	Digital output	3 intrinsically safe galvanically separated digital ouputs closed output remain voltage $\approx$ 2,5 V
	Analog output	4-20 mA, min 600 Ω, error < 0,2 % TK < 0,01 %/K
Power supply	Minimum Configuration DC155.x.0.0.x.0.0.x	U $\geq$ 15 V, I $\geq$ 20 mA, load $\geq$ 750 Ω
	Additional analog output	U $\geq$ 15 V, current as above + 21 mA
	Add. TTY interface	U $\geq$ 15 V, current as above + 22 mA
	Add. RS485 interface	U $\geq$ 15 V, current as above + 11 mA
	Add. 2. NAMUR- input	U $\geq$ 15 V, current as above + 6 mA
Ergonomy	Display	Graphical LC-Display
	Entering configuration	Menu guided languages: German, English, French, Dutch
	TTY/RS485 interface	Protocol print Remote control via ESC- sequences or Modbus

Dimension drawing

Housing height: 112 mm

Dimensions: 260, 240, 19, 7, 14, 160, 110, 90, 130, 170

M16x1,5 Sp 5-10   M20x1,5 Sp 10-14   M16x1,5 Sp 5-10

Type Code

	DC155	.x	.x	.x	.x	.x	.x	.x
Analog input:								
No analog input		.0						
One 4...20mA input		.1						
Analog output:								
No analog output			.0					
0/4...20mA output			.1					
PID controlled analog output			.2					
NAMUR input:								
NAMUR input				.0				
Two NAMUR inputs				.1				
Pt100 input:								
No Pt100 input					.0			
One Pt100 input					.1			
Interface:								
No interface						.0		
TTY sender and receiver						.3		
RS485						.5		
Protocol:								
No Protocol							.0	
Modbus							.2	
Separate power supply for analog output and TTY / RS485:								
No separate power supply terminal								.0
With separate power supply terminal								.1