bürkert
FLUID CONTROL SYSTEMS

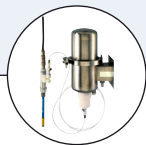# multiCELL - Multi-channel and multi-function transmitter/controller

- Compatible with most common flow, pH/ORP, chlorine and conductivity sensors
- Simple, intuitive user interface with a large adjustable backlit graphics display (4 user defined views)
- Hardware extension possibilities (up to 6 free slots)
- Industrial Ethernet (Modbus TCP, PROFINET or EtherNet/IP) option available
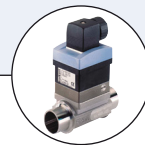- Functionality extendable by software options

Type 8619 can be combined with…

Type 8200	**Type 8201**	**Type 8221**	**Type 8030**	**Type 8232**
pH/ORP sensor	pH system	Conductivity sensor	Inline flowmeter	Chlorine sensor

The 8619 multichannel and multifunction transmitter/controller, available in two housing variants for panel or wall mounting, is a microprocessor transmitter/controller for connection of sensors which deliver raw signals for pH, ORP, conductivity and flow via pulses or sensors (like pressure, level, chlorine…) which delivers analogue signals (0…20 mA, 4…20 mA, 0…2 V, 0…5 V, 0…10 V).

Type 8619 is the ideal device for measurement and control and as well dosing processes e.g. in applications of water treatment plants (like boiler, cooling tower or reverse osmosis systems) and food and pharma plants. Modularity in hardware and software offers high flexibility for adjusting it to the applications resulting in having a very good price to functionality relation.
Sophisticated electronics and state of the art control algorithms ensure that optimum process control is maintained at all times with minimal operator intervention and achieving highest quality.

Thanks to full support of the Modbus TCP, PROFINET (Conformance Class B) or EtherNet/IP, the 8619 can be integrated into most Industrial Ethernet environments. Therefore all important process values like measurement data, process diagnostics or device status can be easily integrated into the automation system.

General data	
Mounting	Panel-mounted (standardized ¼ DIN housing for 92 x 92 mm cutout) Wall-mounted (with mounting plate)
Materials Seal / Screws Support plate for terminals Terminal blocks Port for an RJ45 connector Display / Front panel and keys Housing Panel-mounted Wall-mounted Cover screws (wall-mounted version) Protective cap (110…240 V AC supplied wall-mounted version)	Please refer to description on page 3. Silicone / Stainless steel 316 (A4) Stainless steel 304 PBT, contact in gold-plated copper alloy Contact in gold-plated copper alloy, thermoplastic PC / Silicone PPO (incl. fastening element) PA66 (incl. fastening plate, cable gland, protecting cover (display), protecting cap (free terminal place), stiffener hinge) PVC Stainless steel 304
Display	LC graphic display, light blue backlighted; 128 x 168 pixels resolution; German, English, French languages
Keypad	4 soft keys [F1] [F2] [F3] [F4] for dynamic functions 1 central navigation key with [↑] [↓] [→] [←] assignments
Data logger	up to 16 values
Sensor monitor	Direct display and verification of measured sensor values
Clock	Real-time clock with date
Module slots	6

Electrical data		
Device version	**Panel-mounted –** Main module	**Wall-mounted –** Power supply module
Operating voltage ("SUPPLY")	12…36 V DC[1] ±10 %, max. 2 A, filtered and regulated, SELV (safety extra low voltage) circuit with a non dangerous energy level	• 12…36 V DC[1] ±10 %, max. 2 A, filtered and regulated, SELV (safety extra low voltage) circuit with a non dangerous energy level • 110…240 V AC, 50…60 Hz, max. 550 mA, integrated protection: 3.15 A time delay fuse ground cable cross-section: 1.5 mm²
Power consumption (of multiCELL device - without additional modules and outputs not connected)	Max. 1.5 VA	Max. 2 VA
Power charges ("PWR OUT" or "POWER OUT" acc. to version)	12…36 V DC[1], max. 1.8 A protected against polarity reversals	• 12…36 V DC[1] version: 12…36 V DC[1], max. 1.8 A; protected against polarity reversals • 110…240 V AC version: 24 V DC ±2 %, filtered and regulated, SELV (safety extra low voltage) circuit with a non dangerous energy level, max. 1.3 A protected against polarity reversals The allowed max. current depends on the ambient temperature: see diagram below
Device version	**Panel-mounted –** Main module, pH/ORP, conductivity, input and output modules	**Wall-mounted –** Main module, pH/ORP, conductivity, input and output modules
Electrical connection	Terminal blocks or hybrid RJ45 connector	Terminal blocks or RJ45 connector
Recommended cable External diameter Cross section of • Earth connection conductor • Rigid H05(07) V-U • Flexible H05(07) V-K • Conductor with non-insulated lug • Conductor with an insulated lug	Cable with maximum operating temperature greater than +90 °C (+194 °F) – 0.75…1.5 mm² 0.2…1.5 mm², stripped over 7 mm, shielded cable 0.2…1.5 mm², stripped over 7 mm, shielded cable 0.2…1.5 mm², stripped over 7 mm, shielded cable 0.2…0.75 mm², stripped over 7 mm, shielded cable	Cable with maximum operating temperature greater than +90 °C (+194 °F) 6…12 mm (4 mm if using a multiple entry seal) min. 1.5 mm² 0.2…1.5 mm², stripped over 7 mm, shielded cable 0.2…1.5 mm², stripped over 7 mm, shielded cable 0.2…1.5 mm², stripped over 7 mm, shielded cable 0.2…0.75 mm², stripped over 7 mm, shielded cable
Device version	**Panel-mounted –** Main module	**Wall-mounted –** Main module
Digital inputs DI1, DI2	Voltage: 0…36 V DC[1], input impedance 3 kΩ Switching threshold: V_{on} = 5…36 V DC[1], V_{off} < 2 V DC; Frequency: 0.5…2500 Hz Galvanic insulation, protected against reversed polarity of DC and voltage spikes	Voltage: 0…36 V DC[1], input impedance 3 kΩ Switching threshold: V_{on} = 5…36 V DC[1], V_{off} < 2 V DC; Frequency: 0.5…2500 Hz Galvanic insulation, protected against reversed polarity of DC and voltage spikes
Digital outputs DO1, DO2	Transistor: can be wired as PNP or NPN, galvanic insulation, protected against short circuit, max. 36 V DC[1], max. 700 mA if 1 DO per module is activated, max. 1 A if the 2 DO's per module are activated, max. 4 A for an Ethernet version if the device has 4 output modules; Operating modes: On/Off, Hysteresis, Window, PWM, PFM, Pulse; Frequency: max. 2000 Hz	Transistor: can be wired as PNP or NPN, galvanic insulation, protected against short circuit, max. 36 V DC[1], max. 700 mA if 1 DO per module is activated, max. 1 A if the 2 DO's per module are activated, max. 4 A for an Ethernet version if the device has 4 output modules; Operating modes: On/Off, Hysteresis, Window, PWM, PFM, Pulse; Frequency: max. 2000 Hz
Analogue output AO1, AO2	4…20 mA, can be wired as sourcing or sinking, galvanic insulation, protected against reversed polarity of DC, max. loop impedance: 860 Ω at 30 V DC, 610 Ω at 24 V DC, 100 Ω at 12 V DC Resolution: 6 µA	4…20 mA, can be wired as sourcing or sinking, galvanic insulation, protected against reversed polarity of DC, max. loop impedance: 1100 Ω at 36 V DC[1], 610 Ω at 24 V DC, 100 Ω at 12 V DC Resolution: 6 µA
Memory card Type / Capacity	SD (Secure Digital) or SDHC (Secure Digital High Capacity) / max. 8 GB Note: We recommend to use the 8 GB SDHC memory card available at Bürkert (see accessories on page 14) because it has been tested with and validated for the 8619 Transmitter/Controller. Another memory card may not operate correctly. With 8 values recorded every 10 sec., the 8 GB card allows continuous recording over 500 days	

[1] ⚠ If the device is mounted in a humid environment or outside, then the maximum voltage allowed is **35 V DC** instead of 36 V DC.

Further technical data

Max. allowed current in dependence of the ambient temperature (for wall-mounted version, 110…240 V AC)

Wall-mounted version, 110…240 V AC, without extension module

Wall-mounted version 110…240 V AC, with extension module
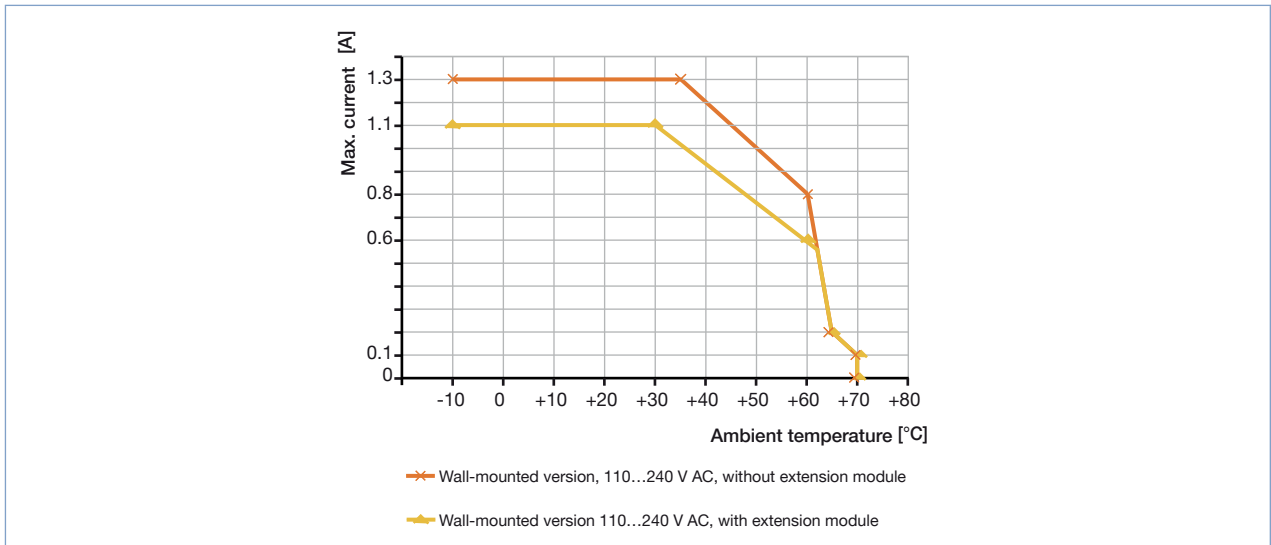
Materials

Panel-mounted (shown with Ethernet version)
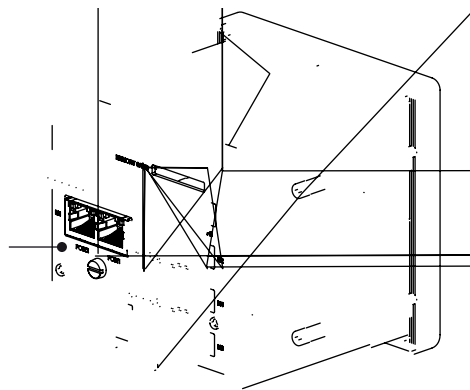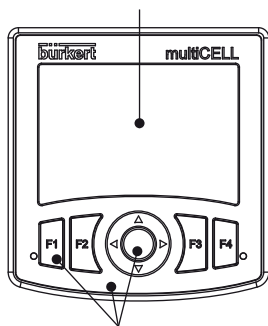
Additional modules

Five different types of modules are available and can be inserted into any of the 6 slots (preconfigured at the factory)
- input module: 2 analogue inputs (4…20 mA or 0…20 mA or 0…2 V or 0…5 V or 0…10 V) and 2 digital inputs (static or frequency/pulse).
- output module: 2 transistor outputs and 2 analogue 4…20 mA outputs
- input pH/ORP and Pt100/Pt1000 modules
- input conductivity and Pt100/Pt1000 modules
- Ethernet module: Modbus TCP, PROFINET Conformance Class B and EtherNet/IP

Technical data – input module	
Power consumption	0.1 VA
Analogue inputs AI1, AI2	can be wired as sourcing or sinking, galvanic insulation
Current	range: 0 or 3.5…22 mA max. voltage: 36 V DC[1] impedance: 50 Ω resolution: 1.5 µA
Voltage	range: 0…2 or 5 or 10 V DC max. voltage: 36 V DC[1] impedance: 110 kΩ resolution: 1 mV
Error	±0.25 % of measured value
Digital inputs DI1, DI2	Voltage: 0…36 V DC[1], input impedance 3 kΩ Switching threshold : V_{on} = 5…36 V DC[1], V_{off} < 2 V DC; Frequency: 0.5…2500 Hz Galvanic insulation, protected against reversed polarity of DC and voltage spikes

Technical data – output module	
Power consumption	Max. 0.1 VA
Digital outputs DO1, DO2	Transistor: can be wired as PNP or NPN, galvanic insulation, protected against short circuit, max. 36 V DC[1], max. 700 mA if 1 DO per module is activated, max. 1 A if the 2 DO's per module are activated, max. 4 A for an Ethernet version if the device has 4 output modules; Operating modes: On/Off, Hysteresis, Window, PWM, PFM; Frequency: max. 2000 Hz
Analogue output AO1, AO2	4…20 mA, can be wired as sourcing or sinking, galvanic insulation, protected against reversed polarity of DC, max. loop impedance: 1100 Ω at 36 V DC[1], 610 Ω at 24 V DC, 100 Ω at 12 V DC Resolution: 6 µA
4…20 mA output uncertainty	±0.5 % of the transmitted value

Technical data – pH/ORP module	
Power consumption	0.1 VA
pH/ORP input	Simultaneous pH and ORP measurement with input for electrochemical pH/ORP
Temperature input	Pt100/Pt1000, 2 or 3 wires
pH measurement Measuring range Resolution Measurement deviation Probe type	-2.0…+16 pH or -600…+600 mV 0.01 pH or 0.1 mV ±0.02 pH or 1 mV + error of the pH probe* electrochemical
ORP measurement Measuring range Resolution Measurement deviation Probe type	-2000…+2000 mV 0.1 mV ±1 mV + error of the ORP probe* electrochemical
Temperature measurement Measuring range Resolution Measurement deviation Probe type	-25…+130 °C *(-20…+266 °F)* 0.1 °C *(0.18 °F)* ±1 °C *(1.8 °F)* + error of the temperature probe* Pt100/Pt1000, 2 or 3 wires

* see related probe data sheet

Technical data – conductivity module	
Resistance measurement	(without conductivity probe connected) 5.0 Ω…1 MΩ
Power consumption	0.25 VA
Conductivity input	Operation with 2 or 4 pin technology sensors
Temperature input	Pt100/Pt1000, 2 or 3 wires
Conductivity measurement Measuring range Resolution Measurement deviation	(with connected conductivity probe) 0 µS/cm…2 S/cm (depending on the conductivity cell) 1 nS/cm ±0.5 % of measured value + error of the conductivity probe*
Resistivity measurement Measuring range Resolution Measurement deviation	(with connected conductivity probe) 0.5 Ω.cm…100 MΩ.cm (depending on the conductivity cell) 0.1 Ω.cm ±0.5 % of measured value + error of the conductivity probe*
Temperature measurement Measuring range Resolution Measurement deviation Probe type	-40…+200 °C *(-40…+392 °F)* 0.1 °C *(0.18 °F)* ±1 °C *(1.8 °F)* + error of the temperature probe* Pt100/Pt1000, 2 or 3 wires

* see related probe data sheet

[1] ⚠ If the device is mounted in a humid environment or outside, then the maximum voltage allowed is **35 V DC** instead of 36 V DC.

Technical data – Ethernet module	
Power consumption	2.2 VA
Supported network protocols	Modbus TCP, PROFINET or EtherNet/IP
LEDs	• 2 Link/Act LEDs (yellow) • 2 Link LEDs (green)
Electrical connection	2 ports for an RJ45 connector (Not provided – Note: to make sure the door of a wall-mounted Ethernet version can be fully closed, use RJ45 male connectors with maximum dimensions of 45 mm, including the bend radius of the Ethernet cable.)

Recommended cable
  Shielded cable
  Minimum category
  Length
	
	minimum required: FTP
	5e / CAT-5
	maximum 100 m

Modbus TCP protocol
  Protocol
  Network topology
 	
  IP configuration
 	
  Transmission speed
	
	Internet protocol, version 4 (IPv4)
	• Tree
	• Star
	• Line (open daisy chain)
	• Fixed IP
	• BOOTP (Bootstrap Protocol)
	• DHCP (Dynamic Host Configuration)
	10 or 100 MBit/s

PROFINET protocol
  PROFINET IO speci-fication
  Network topology
 	
  Network manage-ment
 	
  IP configuration
 	
  Transmission speed
  Maximum supported conformance class
  Media Redundancy (for ring topology)
  GSDml file
	
	V2.3
	• Tree
	• Star
	• Ring (closed daisy chain)
	• Line (open daisy chain)
	
	• LLDP (Link Layer Discovery Protocol)
	• SNMP V1 (Simple Network Management Protocol)
	• MIB (Management Information Base)
	• DCP (Discovery and Configuration Protocol)
	• Manual (Device naming and IP setting)
	100 MBit/s full duplex
	
	CC-B
	
	MRP client is supported
	Available at / Download from:
	www.burkert.com

EtherNet/IP
  Protocol
  Network topology
 	
  IP configuration
 	
  Transmission speed
  Duplex modes
  MDI modes (Medium Dependant Interface)
  Predefined standard objects
 	
  Device specified objects
 	
  EDS file
	
	Internet protocol, version 4 (IPv4)
	• Tree
	• Star
	• Ring (closed daisy chain)
	• Line (open daisy chain)
	• Fixed IP
	• BOOTP (Bootstrap Protocol)
	• DHCP (Dynamic Host Configuration Protocol)
	10 or 100 MBit/s
	Half duplex, full duplex, auto-negotiation
	
	auto-MDIX
	
	Identity, Message Router, Assembly, Connection Manager, DLR, QoS, TCP/IP Interface, Ethernet Link object
	
	I/O main board M0, Functions, Extension modules, Ethernet module
	Available at / Download from:
	www.burkert.com

| Environment conditions – Main module, pH/ORP, conductivity, input, output and Ethernet modules	

Ambient temperature
  Operation (with/without memory card*)
  Only Main module
 	
  Min. 1 additional module
 	
  Storage
	
	• Panel-mounted and 110…240 V AC wall-mounted version:
	-10…+70 °C (+14…+158 °F)
	• 12…36 V DC[1] wall-mounted version:
	-10…+75 °C (+14…+167 °F)
	• all versions:
	-10…+60 °C (+14…+140 °F)
	
	• all versions: -20…+70 °C (-4…+140 °F), limited to -10…+70 °C (+14…+140 °F) if memory card is inserted

Relative humidity	< 85 %, without condensation
Height above sea level	max. 2000 m

*s if a different memory card is used, observe the operating temperatures specified by its manufacturer

Standards, directives and certifications – Main module, pH/ORP, conductivity, input, output and Ethernet modules	

Protection class
  Panel-mounted ver-sion
 	
  Wall-mounted version
	acc. to EN 60529
	
	IP65 (panel-mounted, cabinet closed)
	IP20 (panel-mounted, inside the cabinet)
	NEMA250 4X (panel-mounted, in front of the closed cabinet)
	IP65, IP67, if the following conditions are met:
	- glands body tightened with a tighten-ing torque of 5.5 Nm ±20 %, made at factory
	- glands blanked off or wired
	- gland nuts tightened with a tightening torque of 4.5 Nm ±20 %
	- housing closed
	- 4 screws of cover cross tightened with a tightening torque of 1.4 Nm ±20 %

Standard and directives CE	The applied standards, which verify conformity with the EU Directives, can be found on the EU Type Examination Certificate and/or the EU Declaration of conformity (if applicable)

Certifications
  UL-Listed for
  USA and Canada
 	
  PROFINET
 	
  EtherNet/IP	

| Specific technical data of UL-Listed products for US and Canada	
Intended for an inner pollution input V DC version V AC version	Pollution degree 2 acc. to EN 61010-1 Pollution degree 3 acc. to EN 61010-1 if the following conditions are met: - housing tightly closed. - the 4 screws of the cover are tightened crosswise at a torque of 1.4 Nm ±20 %
Installation category V DC version V AC version	Category I according to UL 61010-1 Category II according to UL 61010-1

Dimensions [mm]

Panel-mounted
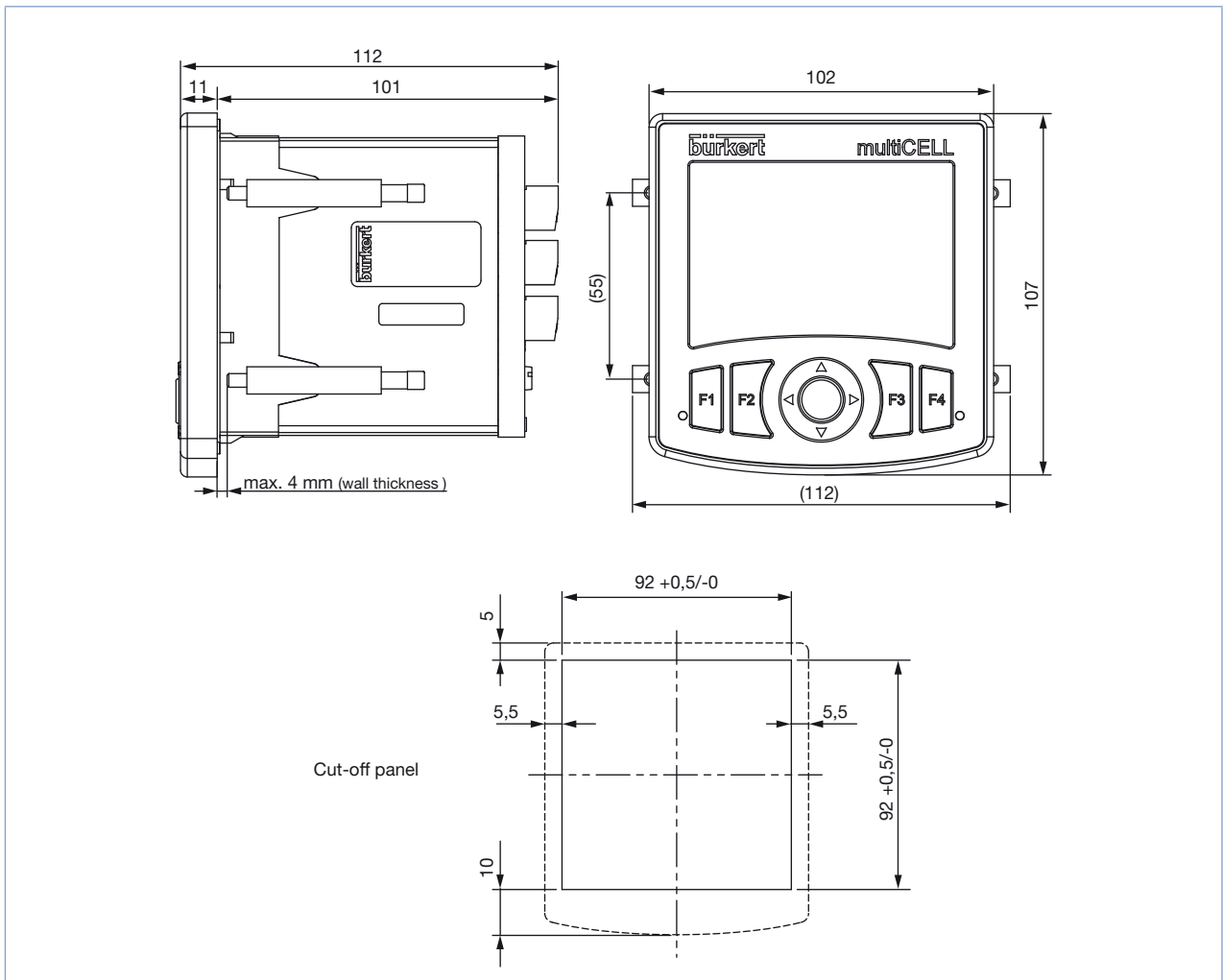
Dimensions [mm]

Wall-mounted
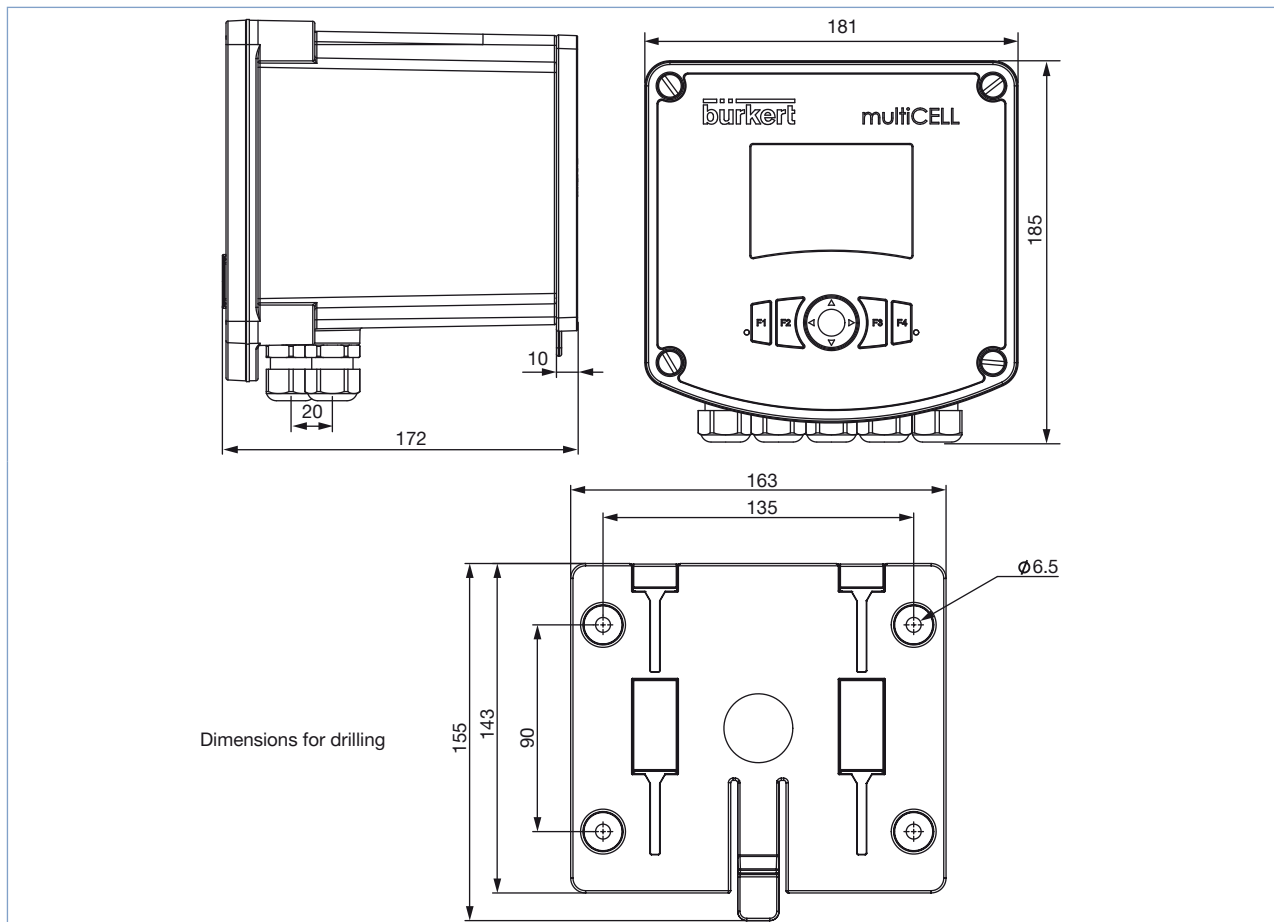
The housing variant for wall mounting can also be installed on a pipe using a mounting set (has to be ordered separately, see accessories on page 14).

Principle of operation

Thanks to its modular internal structure, the transmitter/controller is able to manage, in parallel, different types of sensors and selectively perform operations on the measured values. Multiple tasks can be performed in parallel; from a simple measurement, to a standard output signal, to the assignment of mathematical formulas for selectable values for controlling and dosing. The signal and function modules can be easily connected to each other by configuration. Thanks to individual parameterization, all functions can be adapted to the actual process conditions.

The basic unit is either a panel-mounted version or a wall-mounted version. It has analogue and digital outputs, digital inputs and its front panel has a backlit graphic display. Depending on the application, up to 6 slots are available in which pH/Redox, conductivity, analog and digital output modules, additional analog and digital input boards, and industrial Ethernet modules can be installed. There is no need for a separate 4…20 mA transmitter: the pH, conductivity modules accept raw signals from sensors.
Though highly functional the multiCELL can be operated easily and intuitively. The base for this is the large graphical display and the dynamically assigned function keys. Clearly arranged menu and module structures allow for easy configuration and setup of parameters and offer a high transparency for the functions in use. Four user views can be configured. This allows the user to design a view himself displaying a value arrangement which he likes to see simultaneously and this can be available 4 times and independent from each other.

For data collection and storage e.g. of measurement values there is an optional data logger available which uses the memory card if inserted in the card slot. Uploading and restoring the complete database of the complete 8619, including the special parameter settings of the application and the updating firmware via the memory card is available as standard.
Fully integration into the automation system can be realized with the optional available Industrial Ethernet Module. The protocols Modbus TCP and PROFINET Conformance Class B and EtherNet/IP are fully supported. Thanks to generic configuration files, routing within the PLC can be easily done.

Construction

The main module slot enables:
- connection to the transmitter/controller power supply
- to power another device
- the use of 2 digital inputs (DI), 2 analogue (AO) and 2 digital (DO) outputs
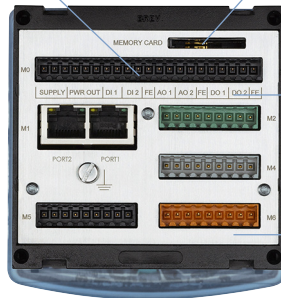
Memory card slot:
- For upload and download of parameter settings
- Software updates and functional upgrades
  Simple operation: insert the memory card into the slot on the rear of the device.

Additional module slots (up to 6) to choose among:
- module for conductivity sensor and/or temperature sensor (green connector)
- module for pH/ORP sensor and/or temperature sensor (light grey connector)
- module for 2 analogue and 2 digital outputs (black connector)
- module for 2 analogue and 2 digital inputs (orange connector)
- module for Industrial Ethernet (2 RJ45 connectors)*

The main module slot enables:
- the use of 2 digital inputs (DI), 2 analogue (AO) and 2 digital (DO) outputs
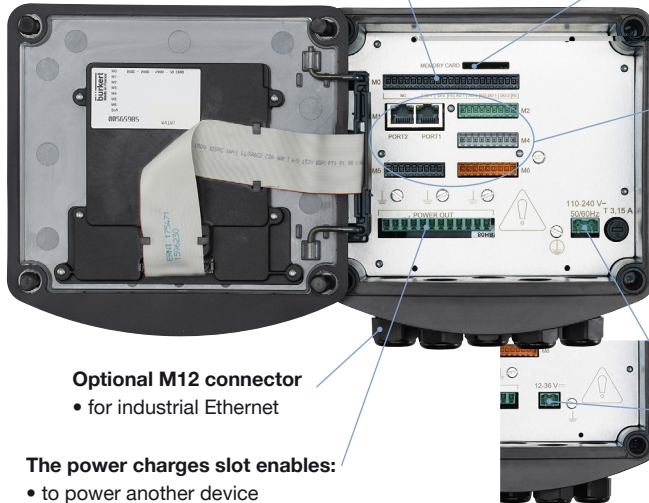
Memory card slot:
- For upload and download of parameter settings
- Software updates and functional upgrades
  Simple operation: insert the memory card into the slot on the rear of the device.

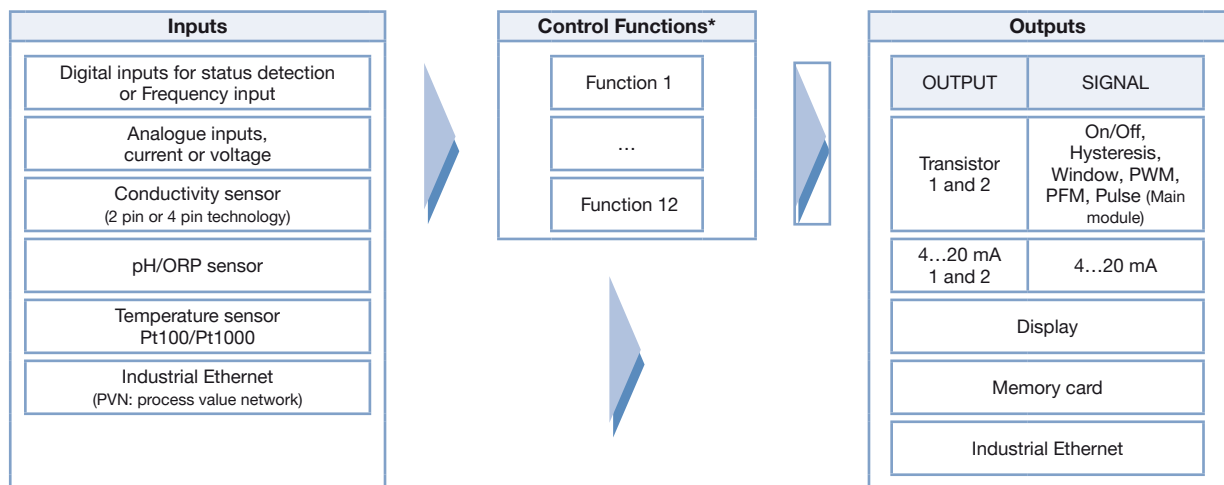**Additional module slots up to 6) to choose among:**
- module for conductivity sensor and/or temperature sensor (green connector)
- module for pH/ORP sensor and/or temperature sensor (light grey connector)
- module for 2 analogue and 2 digital outputs (black connector)
- module for 2 analogue and 2 digital inputs (orange connector)
- module for Industrial Ethernet (2 RJ45 connectors)*

Optional M12 connector
- for industrial Ethernet

The power charges slot enables:
- to power another device

The power supply slot enables:
- connection to the transmitter/controller power supply (behind the protecting cover for 110…240 V AC version)

*) Ethernet module takes two slots
The Ethernet module is available from Software version B.00.01

Process diagram

Inputs
Digital inputs for status detection or Frequency input
Analogue inputs, current or voltage
Conductivity sensor (2 pin or 4 pin technology)
pH/ORP sensor
Temperature sensor Pt100/Pt1000
Industrial Ethernet (PVN: process value network)

Control Functions*
Function 1
…
Function 12

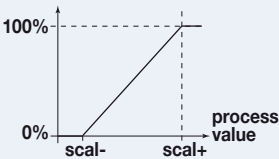| Outputs	
OUTPUT	SIGNAL
Transistor 1 and 2	On/Off, Hysteresis, Window, PWM, PFM, Pulse (Main module)
4…20 mA 1 and 2	4…20 mA
Display	
Memory card	
Industrial Ethernet	

* The 12 functions can be activated simultaneously and independently, and up to 6 PID functions can be set; if this option is selected.
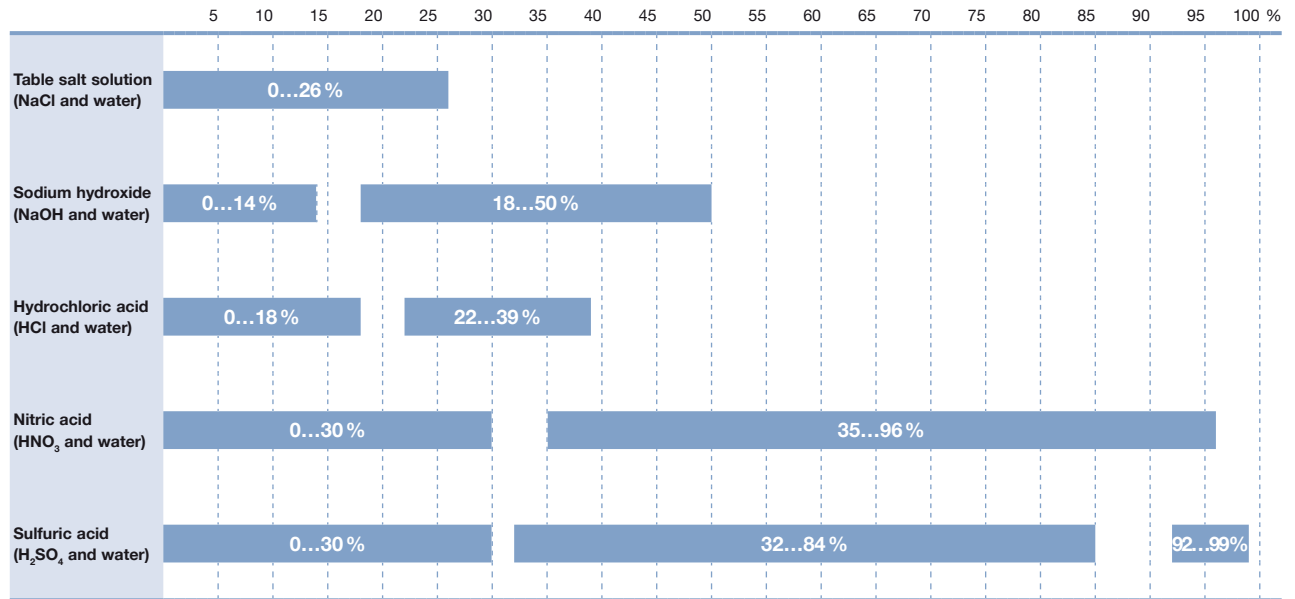
List of available functions

The transmitter/controller allows to allocate each sensor signal to a function fully configurable by the user (such as dosage, for example). According to the model the following functions are available as standard or as option

Functions	Availability	Formula	Example for usage
Arithmetic	Basic for all models	A + B, A - B, A * B, A / B	Arithmetic operation (addition, subtraction, multiplication and division) between 2 values. For addition and subtraction, the 2 values must have the same units, but for multiplication and division not necessarily. A and B can be constants, measured physical parameters, results of other active configured functions, the previous result of the same function, values sent by a PLC (PVN). The multiplication function is available from Software version B.00.01
PASS	Basic for all models	A / B [%]	A and B must have the same units and can be constants, measured physical parameters, results of other active configured functions, the previous result of the same function, values sent by a PLC (PVN) Calculates a flow ratio between 2 values. e.g: reverse osmosis
REJECT	Basic for all models	(1 - A / B) [%]	A and B must have the same units and can be constants, measured physical parameters, results of other active configured functions, the previous result of the same function, values sent by a PLC (PVN) Calculates a reject ratio between 2 values. e.g: reverse osmosis
DEVIAT	Basic for all models	(A / B - 1) [%]	Calculates a deviation ratio between 2 values.
MATH	As option	Permits to enter an equation which respects the following rules: • up to 125 characters; • up to 5 process values (A, B, C, D & E) • with possible operators: ( ) ! ± ^ × ÷ % + - < > ≤ ≥	A, B, C, D, E can be constants, measured physical parameters, results of other active configured functions, the previous result of the same function, values sent by a PLC (PVN) e.g: (A*B)+(C*D)-E
PROP	Basic for all models		Calculates an output in proportion to a scaled input
ON/OFF	Basic for all models	On/Off control loop	For any type of input
Flow rate measurement	As base for model item no. 560 205, 560 213, 565 984, 565 985, 565 986, 565 987 for others as option		Allows both digital inputs to be used as frequency inputs for flow measurement (in standard for base unit) or coexistent with analytical modules (in option for others devices)
PID	As option	Continuous control loop	For any type of input and with internal or external setpoint
Time dosing	As option		e.g. for cooling tower application. Dosing of 1 or 2 biocides in the circuits, at fixed time intervals or by defining dosing during one week, with 2 dosings per day. Can be connected to an ON/OFF conductivity function for prebleed.
Special Chemical batch (Volume dosing)	As option		Specifically for cooling tower application. A defined volume of water is counted, then an actuator is energized during a defined time to add a chemical and the water volume being counted is resetted.
Concentration	As option		The concentration curves of $NaCl$, H_2SO_4, HNO_3, $NaOH$, HCl are implemented for use in complete concentration range and not only in low concentration.
Data logging on memory card	As option		Up to 16 values can be stored at a defined time interval.

Concentration tables multiCELL

If multiCELL 8619 is equipped with a conductivity module, multiCELL is able to calculate the concentration depending on the measured conductivity and temperature. Therefore concentration tables for binary mixtures of (five) different substances and water are available. Determine the best suited concentration range (out of ten ranges) for your application.

Substance	Range 1	Range 2	Range 3
Table salt solution (NaCl and water)	0…26 %		
Sodium hydroxide (NaOH and water)	0…14 %	18…50 %	
Hydrochloric acid (HCl and water)	0…18 %	22…39 %	
Nitric acid (HNO_3 and water)	0…30 %	35…96 %	
Sulfuric acid (H_2SO_4 and water)	0…30 %	32…84 %	92…99 %

Scale: 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 %

Ordering chart for multiCELL transmitter/controller, Type 8619

Notes regarding the ordering of below mentioned multiCELL transmitter/controller:
- The below items are equipped of arithmetic, PASS, REJECT, DEVIAT, MATH, PROP, ON/OFF functions in standard (see List of available functions, p. 9).
  In the BASE unit the Flow measurement function is also a standard function, the other functions are available as option.
  Please also use the "request for quotation" form on page 16 for ordering a device with additional options.

- If a totalizer function is required then a Flowmeter has to be connected via a digital input (main module or input module)

Panel-mounted version, 12…36 V DC[1]

| Description | Inputs | | | | Outputs | | Network protocol | UL[2] certification | Article no. |
	Digital (DI) (On/Off or frequency)	Analogue (AI) 0/4…20 mA current and/or 0…2, 0…5, 0…10 V DC voltage	Number and type of sensor raw signals	Pt100/ Pt1000	Transistor (DO) (PWM or PFM or On/Off or pulse)	Analogue (AO) 4…20 mA			
Base unit with flow measurement (Main module)	2	—	—	—	2	2	—	No	560205
								Yes	560213
Main module + 1 pH/ORP module	2	—	1 (pH/ORP)	1	2	2	—	No	560200
								Yes	560208
Main module + 2 pH/ORP modules + 1 output module	2	—	2 (pH/ORP)	2	4	4	—	No	560202
								Yes	560210
Main module + 1 conductivity module	2	—	1 (cond.)	1	2	2	—	No	560201
								Yes	560209
Main module + 2 conductivity modules + 1 output module	2	—	2 (cond.)	2	4	4	—	No	560203
								Yes	560211
Main module + 1 pH/ORP module + 1 conductivity module + 1 output module	2	—	1 (pH/ORP) + 1 (cond.)	2	4	4	—	No	560204
								Yes	560212
Main module + 1 input module	4	2	—	—	2	2	—	No	563960
								Yes	563961
Main module + 1 pH/ORP module + 1 input module + 1 output module	4	2	1 (pH/ORP)	1	4	4	—	No	563962
								Yes	563963
Main module + 1 conductivity module + 1 input module + 1 output module	4	2	1 (cond.)	1	4	4	—	No	563964
								Yes	563912
Main module + 1 Ethernet module	2	—	—	—	2	2	Modbus TCP[3]	No	569259
							PROFINET[4]	No	569260
							EtherNet/IP[4]	Yes	569261
Main module + 1 pH/ ORP module + 1 Ethernet module	2	—	1 (pH/ORP)	1	2	2	Modbus TCP[3]	No	569265
							PROFINET[4]	No	569266
							EtherNet/IP[4]	Yes	569267
Main module + 1 conductivity module + 1 Ethernet module	2	—	1 (cond.)	1	2	2	Modbus TCP[3]	No	569262
							PROFINET[4]	No	569263
							EtherNet/IP[4]	Yes	569264

[1] If the device is mounted in a humid environment or outside, then the maximum voltage allowed is **35 V DC** instead of 36 V DC.

[2] cULus UL-Listed (Measuring Equipment E237737).

[3] If you order a device with a Modbus TCP network protocol, it does not include the other 2. If you would then like to change it with a PROFINET or EtherNet/IP network, the Ethernet protocol must be ordered (see Ordering chart for additional software functions, see page 14).
[4] If you order a device with a PROFINET or EtherNet/IP network protocol, it also contains the other two.

Ordering chart for multiCELL transmitter/controller, Type 8619

Wall-mounted version, 12…36 V DC[1]

8619 multiCELL

bürkert

Ordering chart for multiCELL transmitter/controller, Type 8619

Wall-mounted version, 110…240 V AC

| Description | Inputs | | | | Outputs | | | | |
	Digital (DI) (On/Off or frequency)	Analogue (AI) 0/4…20 mA current and/or 0…2, 0…5, 0…10 V DC voltage	Number and type of sensor raw signals	Pt100/ Pt1000	Transistor (DO) (PWM or PFM or On/Off or pulse)	Analogue (AO) 4…20 mA	Network protocol	UL[1] certification	Article no.
Base unit with flow measurement (Main module)	2	—	—	—	2	2	—	No	565985 🛒
								Yes	565987 🛒
Main module + 1 pH/ORP module	2	—	1 (pH/ORP)	1	2	2	—	No	565989 🛒
								Yes	565991 🛒
Main module + 2 pH/ORP modules + 1 output module	2	—	2 (pH/ORP)	2	4	4	—	No	565993 🛒
								Yes	565995 🛒
Main module + 1 conduc-tivity module	2	—	1 (cond.)	1	2	2	—	No	565997 🛒
								Yes	565999 🛒
Main module + 2 conduc-tivity modules + 1 output module	2	—	2 (cond.)	2	4	4	—	No	566001 🛒
								Yes	566003 🛒
Main module + 1 pH/ORP module + 1 conductivity module + 1 output module	2	—	1 (pH/ORP) + 1 (cond.)	2	4	4	—	No	566005 🛒
								Yes	566007 🛒
Main module + 1 input module	4	2	—	—	2	2	—	No	566009 🛒
								Yes	566011 🛒
Main module + 1 pH/ORP module + 1 input module + 1 output module	4	2	1 (pH/ORP)	1	4	4	—	No	566013 🛒
								Yes	566015 🛒
Main module + 1 conduc-tivity module + 1 input module + 1 output module	4	2	1 (cond.)	1	4	4	—	No	566017 🛒
								Yes	566019 🛒
Main module + 1 Ethernet module	2	—	—	—	2	2	Modbus TCP[2]	No	569277 🛒
							PROFINET[3]	No	569278 🛒
							EtherNet/IP[3]	Yes	569279 🛒
Main module + 1 pH/ ORP module + 1 Ethernet module	2	—	1 (pH/ORP)	1	2	2	Modbus TCP[2]	No	569283 🛒
							PROFINET[3]	No	569284 🛒
							EtherNet/IP[3]	Yes	569285 🛒
Main module + 1 conduc-tivity module + 1 Ethernet module	2	—	1 (cond.)	1	2	2	Modbus TCP[2]	No	569280 🛒
							PROFINET[3]	No	569281 🛒
							EtherNet/IP[3]	Yes	569282 🛒

[1] c(UL)us   UL-Listed (Measuring Equipment E237737).

[2] If you order a device with a Modbus TCP network protocol, it does not include the other 2. If you would then like to change it with a PROFINET or EtherNet/IP network, the Ethernet protocol must be ordered (see Ordering chart for additional software functions, see page 14).

[3] If you order a device with a PROFINET or EtherNet/IP network protocol, it also contains the other two.

Ordering chart for additional software functions for Type 8619

Use the following order codes only in case you already own a 8619 and you like to add one or more functions to your device.

! **Please don't forget to note down the Article no. and serial number (see the device label) of your multiCELL on your order.**

Software option	Remark	Article no.
PID control	—	561836 🛒
Data Logger	SD card is not included.	561837 🛒
Chemical dosing (e.g. cooling tower)	The "Dosing" option also activates the "Flow" option if it does not exist by default in the device.	561838 🛒
Flow measurement	Is already included in the base unit device (560205 and 560213)	561839 🛒
Concentration measurement of selected fluids	Requires at least one conductivity hardware module	561840 🛒
Protocols Ethernet: Modbus TCP, PROFINET, EtherNet/IP	Ethernet-Module takes 2 slots. (Available only from Software version B.00.01; Already included in the device with a PROFINET or EtherNet/IP network protocol)	569286 🛒
MATH function	—	569848 🛒

Remark: the function upload and download of the complete data set of the 8619 is available as standard and does not need the data logger option

Ordering chart for accessories for Type 8619

Description	Article no.
SDHC Memory Card - Class 10, 8 GB	564072 🛒
Mounting set for pipe mounting	564596 🛒
Adapter for cable glands M20 × 1.5 with interface connector RJ45-M12 code D	569242 🛒

8619
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multiCELL Transmitter/controller, Type 8619 - request for quotation

Please fill out this form and send to your local Bürkert Sales Centre* with your inquiry or order

Company	Contact person
Customer no.	Dept.
Address	Tel./Fax
Town / Postcode	E-Mail

8619 multiCELL transmitter/controller

Quantity [   ]   Desired delivery date [   ]

Models

- ☐ Panel-mounted version, 12…36 V DC
- ☐ Wall-mounted version, 12…36 V DC
- ☐ Wall-mounted version, 110…240 V AC

Hardware

☐ Main module[1] (without flow function; if needed please order the flow measurement software option)

Slot

	M1	M2	M3	M4	M5	M6
Ethernet module (takes up M1 and M3 slots)	☐					
Conductivity + temperature module	☐	☐	☐	☐	☐	☐
pH/ORP + temperature module	☐	☐	☐	☐	☐	☐
Output module[2]	☐	☐	☐	☐	☐	☐
Input module[3]	☐	☐	☐	☐	☐	☐

[1] 2 digital inputs + 2 analogue outputs + 2 transistor outputs
[2] 2 analogue outputs + 2 transistor outputs
[3] 2 analogue inputs + 2 digital inputs

Software

- ☐ PID
- ☐ Data logger
- ☐ Chemical dosing* (e.g. Cooling Tower) + special batch
- ☐ Flow measurement
- ☐ Concentration Measurement for selected fluids
  (only if one of the slot is equipped with a conductivity module)
- ☐ MATH function

* The "Dosing" option also activates the "Flow" option if it does not exist by default in the device

Ethernet protocols

- ☐ Modbus TCP
- ☐ PROFINET
- ☐ EtherNet/IP

UL certification

- ☐ Yes
- ☐ No

NOTE: If a totalizer function is required then a flowmeter has to be connected via a digital input (Main module or input module)

*To find your nearest Bürkert facility, click on the orange box → **www.burkert.com**