



## CONNECT

### Технические характеристики

По вопросам продаж и поддержки обращайтесь:

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Ижевск (3412)26-03-58	Мурманск (8152)59-64-93	Санкт-Петербург (812)309-46-40	Череповец (8202)49-02-64
Казань (843)206-01-48	Набережные Челны (8552)20-53-41	Саратов (845)249-38-78	Ярославль (4852)69-52-93

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## General



MJK's Connect® is a process controller, RTU, monitor, data logger and telemetry transmitter in one compact device. The Connect® easily monitors and manages all elements in a pump station. Whether control is based on water level or pressure, dissolved oxygen or pH, temperature or flow, Connect® is easy to set-up with pre-programmed layouts that logically direct your selections and inputs to get the full benefit of all the control functions needed.

When Connect's pump control is combined with VFD's, motor wattage monitoring, and flow rate monitoring, a new level of process management is achieved known as Energy Optimization. The Connect® automatically calculates and controls pump speed for delivering the highest ratio of flow rate to energy used. Dramatic energy savings and cost sav-

ings are achieved without compromising any special control needs.

Connect® also has two way communication with SCADA systems through a variety of common wired and wireless methods. Offered are a selection of communication modules for public phone lines, GSM cell networks, and many protocols using RS232 or RS485 connections.

Not only does Connect® network with SCADA systems, it is capable of supporting a mini-network of up to four Connect® devices, giving a large number of inputs and outputs that are coordinated to one or many processes. And, Connect® supports a network of 4 instruments connected in series on its RS485 instrument network. Connect® has all the control and integration capabilities needed for almost any process application.

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**Applications**

- Sewer and wastewater plants
- Drinking water installations
- Pump stations
- Energy optimization
- Filter rinsing
- Pressure enhancement facilities
- Cooling towers
- Storm flow structures
- Biological control
- Sludge treatment
- Filtering equipment
- Groundwater pump stations
- Buffer basin

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**Analog Inputs**

The analog 4-20 mA inputs can be scaled, offset, or named individually and each one has relays for high and a low limits. These values can be used for controlling or as working signals for counters and time measurement for pumps and alarms. Analog signals can also be used for triggering phone

calls or text messaging.

The scaled values are transferred to SCADA installations in the required measuring units; for example 0-300 m<sup>3</sup>/h instead of 0-100%. Analog signals can be externally powered or powered by Connect.

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**Digital In- and Outputs**

The digital inputs have opto-couplers grouped with a common minus and can be activated with an NO or NC relay. Connect® has built-in power supplies for the inputs. Digital inputs can be individually named,

used as control signals, alarms, data logged event markers, or as an input for phone or text messaging.

**Flexible Installation**

MJK's modular design allows for up to 1000 ft. between the Connect® Controller and RTU, additional Connect® units or other remote-connected signal converters like MJK *MagFlux*® and MJK *SuSix*®. The display unit itself can be mounted up to 3000 ft. from the signal converter using a twisted-pair, shielded cable.

One Connect® with one display unit can control and transfer digital measuring values for up to four *MagFlux*®, *Oxix*® and/or *SuSix*® signal converters saving wiring and space while providing an overview for larger installations.

**Simple to operate**

Connect® has a cell phone-like menu structure and a user interface identical with other MJK signal converters. The screen can display values and text in several selectable languages.

**User-definable Screens**

The screen can display up to 8 overview screens each with 8 text lines, and all parameters can be defined and set up individually. Parameters like start and stop setpoints, working data, measured values, and alarms can be displayed. Additional pop-up screens for warnings and alarms keep information current.

**PC Connectivity**

Setup configurations can be downloaded, software updates can be uploaded, and language adaptations can be implemented. The display unit contains a local data logger for more than 160,000 time-stamped values that can be backed-up or shown via a csv file on an ordinary PC. Connection and setup are via a standard USB port and the free MJK Field-Link software utility and Instrument Link.

**Energy Optimization**

MJK's energy optimization software provides substantial power consumption savings - typically approximately 30%, all with flow and wattage monitoring and frequency control.

**Flexible In- and Outputs**

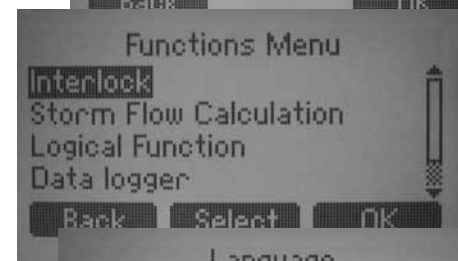
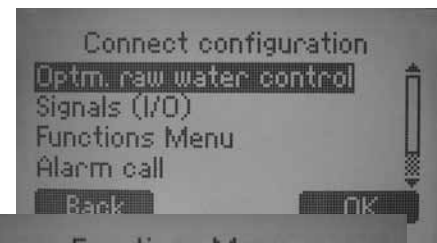
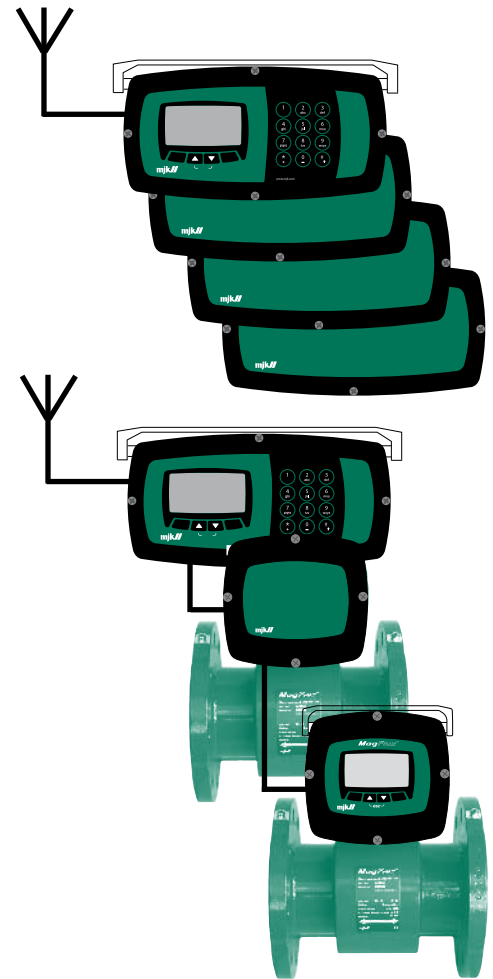
One Connect® can, depending on the I/O module selected, be equipped with up to 16 digital inputs, 8 digital outputs, 6 analog inputs and 1 analog outputs. All can be configured for alarms, counters, etc.

**Modbus® Communication**

The Modbus® RTU communication protocol is used locally to connect to other transmitters and signal converters. For remote connections both Modbus® and other popular communication protocols can be integrated with SCADA installations.

**Large-scale Operation**

Wired and wireless communication options permit Connect to be used in the plant, out on nearby sites or in very remote locations. MJK will supply all information needed to ensure smooth integration with your process control software system wide.



## Specifications

### Connect Base Unit

Connect® Base Unit	
Power supply	115/230 V AC 50 / 60 Hz, ±10 % or 12 V DC battery
Battery backup	Monitored, built-in battery charger for external lead battery, 2 - 30 Ah
Power consumption	25 VA
Clock	Real-time clock with built-in lithium battery (lifetime approx. 10 years@70°F)
Memory storage	32 Mb Flash memory, 10 X 36.000 loggings depending on chosen protocol
Interfaces	1 pc. RS-485 galvanic separated for 1-4 pcs. Connect® 1 pc. RS-485 galvanic separated for 1-4 pcs. MagFlux® and/or SuSix®/Oxix® units 1 pc. optional communication module for networking or telemetry 1 pc. USB 1,1 type mini B, female
Internal communication	Modbus® RTU-mode
External communication	Modbus® RTU-mode or COMLI®
Enclosure rating	NEMA 4x / IP 67
Cabinet material	Glass-reinforced polycarbonate
Temperature range	0 - 140 °F / -20 ... +60 °C
Weight	3.3 lbs / 1,5 kg
CE approvals	EN 61000-6-4:2001, EN 61000-6-2:2001

### I/O Module 16-8-6-1

Connect® I/O Module 16-8-6-1*	
Digital inputs	16 pcs. DI, 10 - 30 V DC
Digital outputs	8 pcs. DO, electronic relays (max. 48 V AC / DC / 120 mA)
Analog inputs	6 pcs. AI galvanic separated, high-resolution, 4 - 20 mA
Accuracy	Better than ± 0.25 % of reading
Resolution	16 bit
Analog outputs	1 pcs. 4 - 20 mA, galvanic separated
Power supply for I/O	3 pcs. 15 V DC, 200 mA

\*) More Connect® I/O modules are available. Contact MJK for additional information.

### Communication Modules

Connect® Communication Modules	
PSTN	Standard Hayes-compatible telephone modem
GSM	Dual band GSM modem
GPRS	Dual band GPRS modem
RS-232 opto	Galvanic isolated RS-232 for data radio or external equipment
RS-485 opto	Galvanic isolated RS-485 with repeater for own lines
RS-485	Modbus®
Ethernet	Prepared for IEEE 802.3 LAN protocols
Bluetooth	Prepared for IEEE 802.15.1. class 2, 2.5 mW
PROFIBUS	Prepared for PROFIBUS® PA

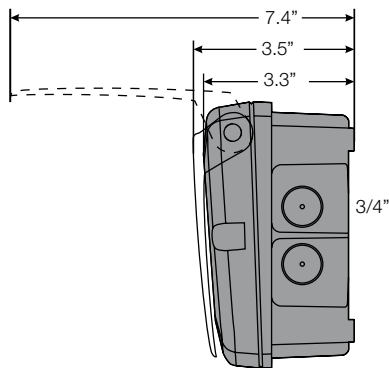
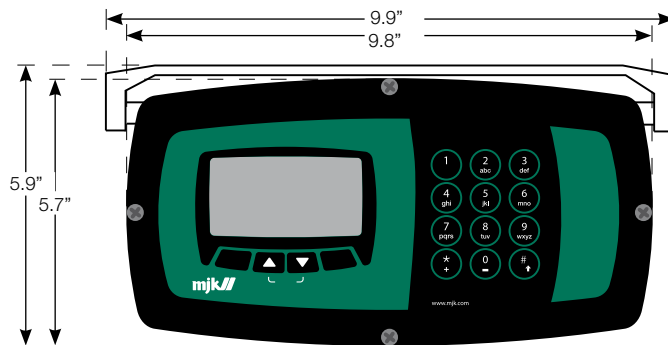


Specifications  
Display Unit

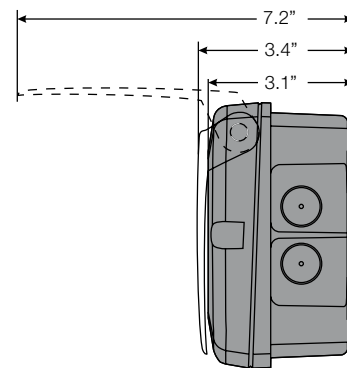
Connect Display	
Display	Background-lit LCD display (64 x 128 pixels) with softkeys
Keyboard	4 softkeys and a keyboard for entries
Display indications	Indication of measurements, work data, functions, configuration and graph
Power supply	From Connect® Base Unit
Clock	Real-time clock with built-in lithium battery (lifetime 10 years@70°F)
Communication	RS-485 Modbus® RTU-mode for communication between 1 - 4 Connect® units
Interface 1	RS-485
Interface 2	USB 1,1 type mini B, female
Interface 3	Communication module
Memory storage	32 Mb Flash memory, 160,000 logs incl. date, time and value (curve display)
Enclosure rating	NEMA 4x / IP 67
Cabinet material	Glass-reinforced polycarbonate
Protection face shield	Transparent polycarbonate or optional white opaque polycarbonate
Temperature range	0 - 140 °F / -20 ... +60 °C
Weight	1.1 lbs / 0.5 kg

Mechanical Dimensions

(in inches)



Slant-mounted face shield



Straight-mounted face shield



**Order Numbers**

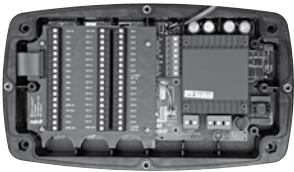
Connect® Base, Display, w/wo I/O Module and Communication Module



205321, Connect® Controller and RTU with display unit    205301, Connect® Controller and RTU without display unit

Connect®		
295301	Connect® Base without display	I/O Module 16-8-6-1
295321	Connect® Base with display	I/O Module 16-8-6-1
295341	Connect® Base with display and PSTN modem	I/O Module 16-8-6-1
295342	Connect® Base with display and GSM modem	I/O Module 16-8-6-1
295343	Connect® Base with display and GPRS modem	I/O Module 16-8-6-1
295344	Connect® Base with display and RS-232	Galvanic Isolated Module
295545	Connect® Base with display and RS-485	Galvanic Isolated Module
295501	Connect® Base	Without I/O Module
205505	Connect® Display Unit	
205511	Connect® I/O Module	I/O Module 16-8-6-1

**Internal Communication Modules**



205511, Connect® I/O Module 16-8-6-1 (16 digital inputs, 8 digital outputs, 6 analog inputs and 1 analog output).

Internal Communication Modules	
205541	PSTN modem module
205542	GSM modem dual-band module
205543	GPRS modem dual-band module
205544	RS-232 galvanic insulated module
205545	RS-485 galvanic insulated repeater module
205546	Modbus® and RS-485 communication module
205547	PROFIBUS® PA communication module
205550	Bluetooth® communication module

**Accessories**

Connect® Accessories	
200115	Sun Roof/Rain Roof for Connect®
200205	Universal Bracket for Mounting Connect Housing on Sun Roof/Rain Roof
200243	Mounting base plate Field (wide)
205508	Kit for mounting display at the panel front
207936	Connect® panel mounting bracket
691095	USB cable for Connect® and PC communication
840110	Field Link
840150	Instrument Link



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