

BMS Steam Station Solutions

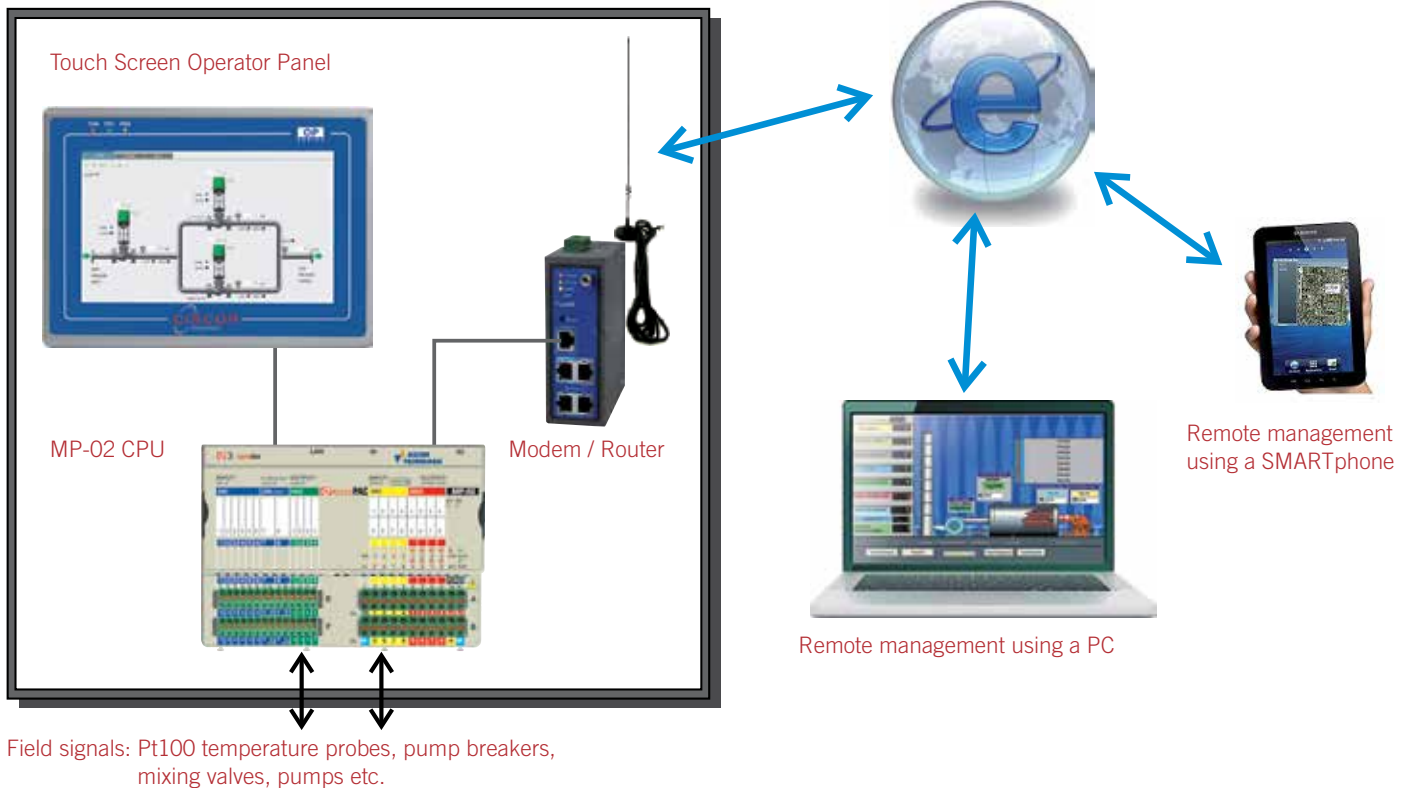


RTK

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Compact Programmable Controller



The control system has been designed for steam, water, or air/gas regulating stations typically found in building trades; commercial, residential, healthcare, municipal and institutional. This would include high rise buildings, university campuses, healthcare facilities & government offices.

Incorporating state of the art technology, the control system has 5 preconfigured systems installed that can easily be selected according to the customers' needs.

Once selected, the operating parameters can be set according to the system requirements. PID parameters for individual control loops can be specifically tailored to each plant.

microPAC MP-02

- > The programmable microPAC solution allows the local management of approximately one hundred digital and analog signals, suitable for small to medium applications or for applications in which intelligence must also be distributed.
- > Compact controller with CPU module and integrated input and outputs. Expansion modules also available
- > Ethernet port, two MODBUS® RTU and ASCII serial ports on board
- > The MP-02 is a typical industrial controller (inputs for thermocouples, PT100, etc.)
- > Can use a standard fieldbus serial or Ethernet to exchange data

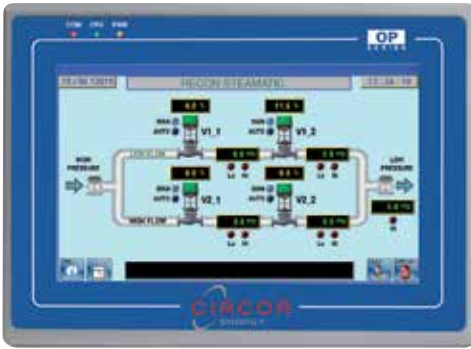
Remote Access and Control Overview



Features

- > Integrate into BMS via
 - Remote Access via Internet enabling multiple site system management (Access via standard web browsers, Different password protected access levels, Installations list, Plant diagram, alarm pages, operating parameters pages, log/events pages)
 - Data Transfer via BACnet®, MODBUS® RTU, MODBUS® TCP, CANopen®, PROFIBUS® DP and M-Bus
- > Can be used with electric or pneumatic actuators
- > Wide range of preconfigured systems available
- > Visual alarm indication for all devices, including activation, acknowledgment and reset times, with notification via SMS (Short Message Service)
- > User friendly interface allowing quick and easy access and adjustment possibilities to authorized users (3 different user levels)
- > Optimize system performance tighter control of building pressure
 - > 3 Different user levels all password protected
 - > Small Footprint; everything contained within one robust designed NEMA control cabinet
 - > 4 separately adjustable PID Control Loops
 - > Real time trends enable system tuning, whilst historical trends (with varying time scales) allow the user to view all past operations.
 - > Reduced valve wear and maintenance; high flow valve doesn't operate below 10%, preventing wire drawing. Stable system operation reduces the number of cycles, protecting trim and packing
 - > Reduced Installation costs – Less pneumatic tubing, easier to install cables than pneumatic tubing, reduced system set up time.
 - > Smooth transition between flow legs and rapid response to system changes insuring constant building pressure

HMI Overview



SKID OVERVIEW

Showing:

- > Actual pressure values (PSI)
- > Valve position in %
- > Manual or Automatic operation
- > Lo & Hi Alarm state
- > Current flow in operation
- > Activated alarms (If any)

SKID VARIATIONS



OPERATING PARAMETERS

Showing:

- > Pressure setpoints (primary & secondary)
- > Switchpoint for High Flow Valve to High + Low Flow (Maximum flow)
- > Switchpoint for High + Low Flow (High Flow Valve) to Low Flow
- > Start point for Low Flow to High Flow (%)
- > Start point for High Flow Valve after switching
- > Start point for Low Flow Valve after switching



CONTROL LOOP PID PARAMETERS (ADJUSTABLE)

Showing (amongst others):

- PB = Proportional Band
- TI = Integral Time
- TD = Derivative Time

HMI Overview *Continued*



REAL TIME TREND *(Historical also available)*

Showing:

- SP** = Set Point (Pressure)
- PV** = Process Value (Actual pressure value)



PASSWORD PROTECTION

Showing:

- > 3 different levels available, each with a separate Login password



CONTACT DETAILS

Showing:

- > Up to 3 different numbers can be stored, to which a message is sent in case of alarm (SIM card has to be installed and activated)



SERVICE INTERVALS

Showing:

- > Up to 3 different service Intervals can be entered. When reached, a notification is given

OVERVIEW PRESSURE CONTROL LOOP

Showing:

- PV** = Process Value (PSI)
- SP** = Set Point (PSI)
- Y** = Control Signal from Panel (%)
- Pos** = (Valve Position Feedback (%))

Technical Information



PANEL

Dimensions: 33 ½" x 21 ½" x 10"

Power Supply: 85 – 264 VAC / 47 – 63 Hz

Max. Power Consumption: 75 W

Electric Load/rating: 16 A

Cable Size AWG:

Supply 1.5 mm²

Control Signal 1.0 mm²

Touch Screen: 10" HMI full color touch screen

Resolution (pixel): 800 x 480



BASE PROGRAMMABLE CONTROLLER

1 x MP-02

DIN Rail Mounted

Power Supply 24VDC

Process Inputs:

2 Universal Analog Inputs
(Thermocouples, RTD, Voltage,
Current, Potentiometer)

6 Analog Inputs
(Voltage, Current)

8 Digital Inputs (24 V)

Process Outputs:

4 Analog Outputs
(Voltage, Current)

8 Digital Outputs (24 V)

Communication and Programming:

RS485

RS232/485

Ethernet port 10/100 Base T

Programming software acc. to
IEC61131-3

BACnet®, MODBUS® RTU/TCP,
CANopen®, PROFIBUS® DP and M-Bus

ADDITIONAL UNITS

2 x MPD1

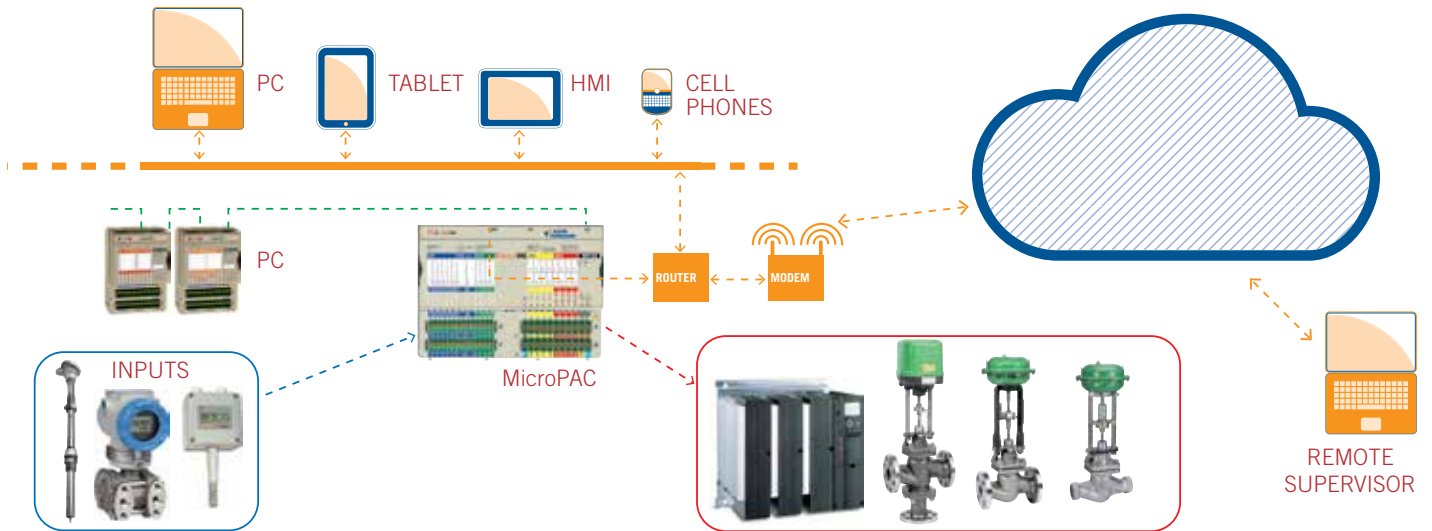
8 Digital Inputs (24 V)

8 Digital Outputs (24 V)

1 x AI-08HL

8 Analog Inputs
(Voltage, Current)

Accessories Overview



Inputs:

- > Including Pressure Transmitters, Level Transducers and Temperature probes



Outputs:

- > 4 – 20 mA for control of Electro-pneumatically operated valves



Outputs:

- > 4 – 20 mA for control of Electrically operated valves
- > 3 point step relay output allowing control of electrically operated valves without a 4 – 20 mA valve positioner



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