

DESCRIPTION

The USC701 is an universal signal conditioner that combines measurement and control functions in a single instrument to provide user selectable solutions for most signal conditioning applications. The USC701 can be programmed directly using the Access Module or a personal computer. The user can also adjust basic calibration functions such as:- zero, span and trip point via a function switch and digital encoder accessible on the lid. The USC701 has a comprehensive range of user selectable hardware options. These include dual analogue inputs, dual digital inputs, current or voltage retransmission, sensor supply and isolated trip relays. The USC701 provides a substantial range of software functionality. These include maximum demand control, dual input functions with A*B, A/B, A+B, A-B, largest of A and B, average of A and B, 100 point linearise, PID control, speed measurement, digital filter options.

TECHNICAL SPECIFICATIONS

Construction : For DIN-rail mounting
Connection : Screw terminals plugg-in type
Housing : Polycarbonit and aluminium
Isolation : Input to output to supply (3-way)

PROGRAMMABLE ANALOG INPUTS

Number of channels : 2 single or one differential pair.
Input resistance : 15k Ω - 4,4M Ω for voltage, 83 Ω for current
Voltage DC : $\pm 300, \pm 100, \pm 30\text{mV}$ and $\pm 400, \pm 100, \pm 30, \pm 10, \pm 4,5, \pm 1\text{VDC}$
Current DC : $\pm 75, \pm 30, \pm 10, \pm 1\text{mA}$
Voltage AC : 0-20, 0-75, 0-250, 0-700mV, 0-3, 0-7, 0-25, 0-75, 0-300VAC (25-70Hz)
Current AC : 0-0,7, 0-7, 0-20, 0-50mA AC (25-70Hz)
Resistans : 0-0,3, 0-1, 0-3, 0-10, 0-30 k Ω (2, 3, or 4-wire)
Potentiometer : Min 100 Ω
RTD Pt-100 : 0-850 $^{\circ}\text{C} \pm 0,2^{\circ}\text{C}$, 0-600 $^{\circ}\text{C} \pm 0,1^{\circ}\text{C}$, Linearised 0,1 $^{\circ}\text{C}$, (2, 3 or 4-wire)
Thermocouple : Typ B, E, J, K, N, R, S, T Accuracy depends on type & range. Cold junction comp $\pm 1^{\circ}\text{C} \pm 0,05^{\circ}\text{C}$, linearised 0,1 $^{\circ}\text{C}$. Up/downscale burn-out by external resistor

PROGRAMMABLE DIGITAL INPUTS

Number of channels : 2
Range : $\pm 30\text{V}$
Input resistance : 20 k Ω
Trigger level : 0-28 V adjustable
Frequency : 1pulse/hr to 5 kHz
Resolution : 0,002 %
Accuracy error : $\pm 0,005 \%$
Mains frequency : As required e.g. 48-52 Hz
Phase : $\pm 180^{\circ}$ (for frequencies up to 100Hz)
Other functions : Hold, Reset, Enable

MATHEMATICAL FUNCTIONS

A - B, A + B, A/B, A x B, \sqrt{X} , X^2 absolute value, minimum, maximum, scaling, tara, average of A and B and logic functions

APPLICATIONS FUNCTIONS

Freezing of min and max value, 100 point linearisation, ramp functions, PID controller, speed measurement and alarm functions. Digital filter for damping of signals.

ANALOG OUTPUT

Current : 0-20, 4-20mA scalable
Current limit : 22mA
Load : 0-600 Ω
Voltage : 0-20 VDC scalable
Accuracy error : 0,1 %
Linearity : 0,05 %
Response time : 50 mSec

PULSE OUTPUT

Open collector : 45V, 150mA



RELAY OUTPUT

Number of relays : 2
Contacts : 250VAC 8A
Function : Programmable, direct, reverse, window, latch
Dead band : Programmable
Contact isolation : 2000V
Delays on/off : Up to 1 hour programmable

SENSOR SUPPLY

Voltage output : 3 to 18VDC @ 50mA
Current output : 1 x 100 uA external, 1 x 100 uA internal

DIGITAL OUTPUTS

Physical : RS232 or RS485. (factory set)
Protocol : Modbus (RTU, ASCII), Talk only

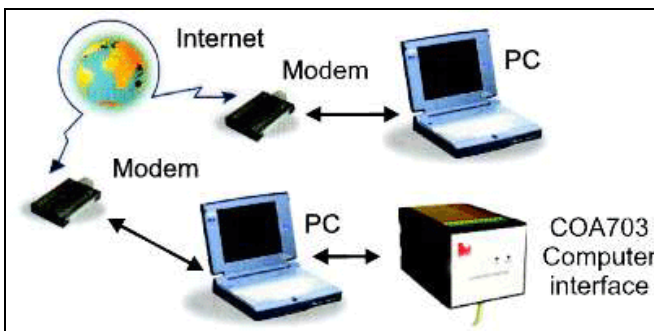
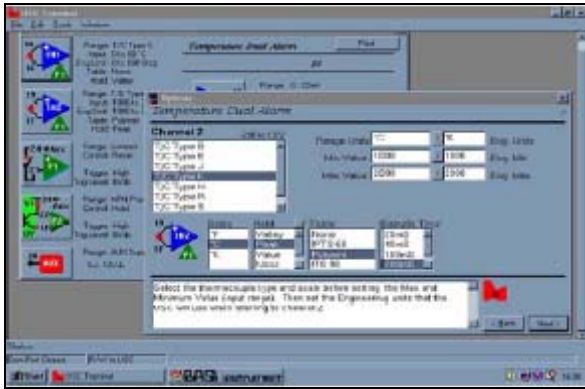
INSTALLATION

Supply : 16-42, 80-280 VAC 48-62Hz or 10-60, 80-300 VDC
Ambient temp : -10 to +70 $^{\circ}\text{C}$
Storage temp : -20 to +70 $^{\circ}\text{C}$
Humidity : 95% RH max (none condensing)
Protection class : IP 40 (IP 65 option)
Mounting : DIN-rail, gear plate
Dimension : B80 x H70 x D110mm
Weight : 300g

PERFORMANCE

Linearity error : $< \pm 0,01\%$
Accuracy error : $< \pm 0,02\%$ ($\pm 0,2\%$ AC)
Resolution : 0,0025%
Update time : 16,6 mSec
Damping : Programmable
Power consumption : 4VA
Dielectric protection : 2000VAC @ 1 min
Isolation : Input to output to supply (3-way) 1500VDC/1000VAC
EMC : EN 50081-1, EN 50082-2, EN 61010-1





ORDER INFORMATION

BUSC701-X X 0 1

SUPPLY:

- 1 = 80-300VDC / 80-280VAC 50/60Hz
- 2 = 10V - 60VDC / 16 - 42VAC 50/60Hz

COMMUNICATION:

- 0 = None
 - *) 1 = Modbus , talk only RS232
 - *) 2 = Modbus , talk only RS485
- Customized front (Min order 50 pcs)

ACCESSORIES

Order Code	Unit Type
BAM702-01	Access Module
BCOA703-01	Computer Adaptor

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