



# Product Data Sheet



## Tracer™ UC600 Programmable Controller

Ordering number: *BMUC600AAA0100011*

The Tracer UC600 unit controller is a multi-purpose, programmable, field-installed device that is designed to control the following types of equipment:

- Air-handling units (AHUs)
- Rooftop units
- Chillers
- Central heating and cooling plants
- Cooling towers
- Generic input/output (I/O) control

### Features and Benefits

Feature	Benefit
BACnet MS/TP, BACnet IP	An open standard building automation communications protocol which enables connections to other BAS systems and controllers
Scheduling—supports up to 3 weekly schedules	Easy to set up and access (3 schedule types supported: Analog, Binary, Multistate)
Graphics—support for up to 10 custom graphics with optional TD7 Display	Perform overrides, link directly to alarms, reports, or other graphics directly from a graphic
Custom data graphs	Create and view graphically formatted data logs. Up to 8 custom data graphs can be created with a maximum of 4 data logs per graph
Configurable and fully programmable	<ul style="list-style-type: none"><li>• Factory programs available through quick configuration for lowest setup time</li><li>• Programmable for flexibility to meet unique sequence or hardware needs</li></ul>
Total of 19 built-in I/O hardware terminations	Meets most applied product needs with built-in I/O or with additional custom programming on the controller
Expandable up to 120 hardware terminations (with the use of optional expansion modules)	Flexibility to meet additional equipment needs
Data logging—25,000 samples	Easier investigation of equipment, zone, or building problems
Removable connectors, DIN rail mounting, multiple service tool connections	Ease of installation and service

### ⚠ SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.

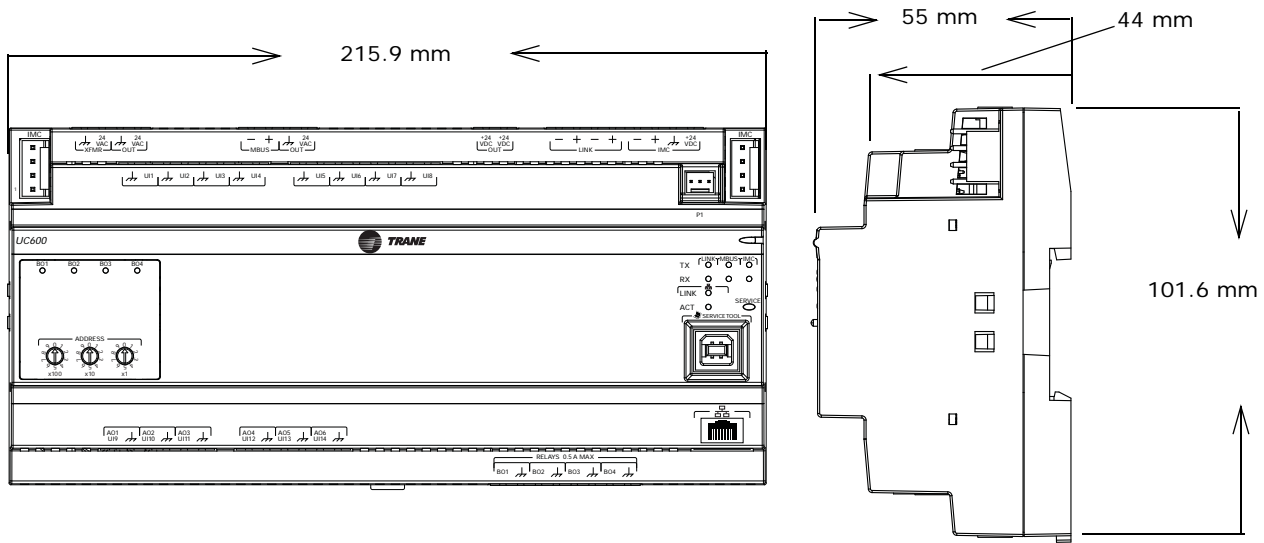
## Controller Specifications and Agency Compliance

<b>Storage</b>	
Temperature:	-55°C to 95°C
Relative humidity:	Between 5% to 95% (non-condensing)
<b>Operating</b>	
Temperature:	-40°C to 70°C
Humidity:	Between 5% to 95% (non-condensing)
Power:	Input: 20.4–27.6 Vac (24 Vac $\pm$ 15% nominal), 50 or 60 Hz, 26 VA Output: 26 VA plus a maximum of 12 VA for each binary output 24 Vdc $\pm$ 10%, device max load 600 mA
Time Clock:	On-board real time clock with 7 day backup
Mounting weight of controller:	Mounting surface must support 0.6 kg
Environmental rating (enclosure):	IP20
Installation:	UL 840: Category 3
Pollution	UL 840: Degree 2
<b>Wiring/Transformer/Communications Protocol</b>	
18 AWG (1.02 mm diameter) is recommended for the circuit between the transformer and the controller. Data link protocol supported: BACnet MS/TP, BACnet IP 10/100 BaseT	
<ul style="list-style-type: none"> <li>• CE marked and SELV compliant power transformer, 24 Vac <math>\pm</math>10%, device max load 26 VA.</li> <li>• The transformer must be sized to provide adequate power to the UC600 controller (26 VA) and external device outputs.</li> <li>• UC600 requires 26 VA for UC600+ IO + two expansion modules (XM30 or XM32).</li> </ul>	
<b>Agency Compliance</b>	
<ul style="list-style-type: none"> <li>• UL916 PAZX, Open Energy Management Equipment</li> <li>• UL94-5V Flammability</li> <li>• UL864/UUKL Smoke Control (when installed and programmed in accordance with the Engineered Smoke Control System Applications Guide, BAS-APG019-EN)</li> <li>• CE Marked</li> <li>• FCC Part 15, Subpart B, Class B Limit</li> <li>• BTL Listed—Advanced Application Profile (B-AAC)</li> </ul>	

## Input and Output Specifications

Input/Output type	Quantity	Types	Range	Notes
Universal Input	8	Thermistor	10 k $\Omega$ Type II, 10 k $\Omega$ Type III, 2,252 $\Omega$ Type II, 20 k $\Omega$ Type IV, 100 k $\Omega$	The UC600 provides 600 mA of DC power for 0–20 mA inputs and/or outputs and to power expansion modules. See the power budget table in the <i>Tracer UC600 Installation, Operation, and Maintenance guide (BAS-SVX045)</i> .
		Resistive (setpoint)	100 $\Omega$ – 1 M $\Omega$	
		RTD	Balco™ (Ni-Fe), 1 k $\Omega$ , 375 (Pt), 385 (Pt), 1 k $\Omega$	
		Current	0–20 mA (linear)	
		Voltage	0–20 Vdc (linear)	
		Binary	Dry contact	
		Pulse Accumulator	Minimum: 20 ms, closed (on) 20 ms, open (off)	
Universal Input/ Analog Output	Configure using any combination of analog or binary inputs/analog outputs			
Inputs	6	Thermistor	10 k $\Omega$ Type II, 10 k $\Omega$ Type III, 2,252 $\Omega$ Type II, 20 k $\Omega$ Type IV, 100 k $\Omega$	
		Resistive (setpoint)	100 $\Omega$ – 1 M $\Omega$	
		RTD	Balco™ (Ni-Fe), 1 k $\Omega$ , 375 (Pt), 385 (Pt), 1 k $\Omega$	
		Current	0–20 mA (linear)	
		Voltage	0–20 Vdc (linear)	
		Binary	Dry contact	
		Pulse accumulator	Minimum: 20 ms, closed (on) 20 ms, open (off)	
Outputs		Current	0–20 mA @16 V	
		Voltage	0–10 Vdc @20 mA	
		Pulse	12.5 ms to 1 s (12.5 ms resolution), 1–60 s (0.5 s resolution)	
Binary Output	4	Relay (form A) wet	24 Vac, 0.5A maximum	Ranges are given per contact.
Pressure Input	1	3-wire	0–5 in H <sub>2</sub> O	Pressure input supplied with 5 Vdc. Designed for Kavlico™ pressure transducers.
<b>Point total</b>	<b>19</b>			

## Dimensions



## Additional Ordering Options

- UC600 Controller (Made in the U.S.A. Version) (order number: *BMUC600USA0100011*)
- Tracer TD7 Operator Display (order number: *X13651571010*)
- TD7 Sealed Ethernet cable (for wet environments) (order number: *X19070632020*)
- TD7 Display Portable Carry Case (order number: *X18210613010*)
- TD7 Mounting Bracket (flat surface, fixed position) (order number: *X05010511010*)
- Tracer XM30 Expansion Module (order number: *X13651537010*)
- Tracer XM32 Expansion Module (order number: *X13651563010*)
- Tracer XM70 Expansion Module (order number: *X13651568010*)
- Tracer XM70 Expansion Module, manufactured in USA (order number: *X13651597010*)
- Tracer BACnet Term (2 pack) (order number *X1365152401*)
- Power Supply 24VAC to 1.4A 24 VDC for XM modules exceeding UC600 power budget (order number: *X1365153801*)
- IMC Harness (order number: *S3090059462*)



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