



H704 Series

Solid-Core Modbus® RTU Branch Circuit Monitor

The H704 Series Branch Circuit Current Monitoring System provides a cost-effective solution for electrical load management, making it ideally suited for applications where load capacity requirements are dynamic, such as the data storage industry, lighting panels, etc.

The H704 monitors the current draw of each breaker in a panelboard. The accumulated information can be transmitted to a Modbus host and/or viewed on an optional local display via an RS-485 network. Data updates occur approximately once per second to provide timely preventative maintenance information. As a circuit approaches capacity, warning and alarm levels trigger (see graph below). Additional capacity can then be added, or loads balanced, to prevent costly downtime from overloaded circuits and unexpected breaker trips. The H704 Series is a UL508 open type device without enclosure.

APPLICATIONS

- Load based cost allocation
- Overload protection
- Load management
- Load balancing
- Lighting circuits

ORDERING INFORMATION

MODEL	BREAKER SPACING	AMP RANGE	OUTPUT
H704-42	3/4" on center	10-50* (configurable)	RTU Modbus†
H704-42/1	1" on center	10-50* (configurable)	RTU Modbus†

NOTES:

*Hole size accommodates up to 6 AWG (10mm²) THHN insulated conductors.

†Other protocols available, consult factory.

**For 240VAC version, order H704-42E or H704-42/1E



For N2 protocol version, order H726-xx

ACCESSORIES

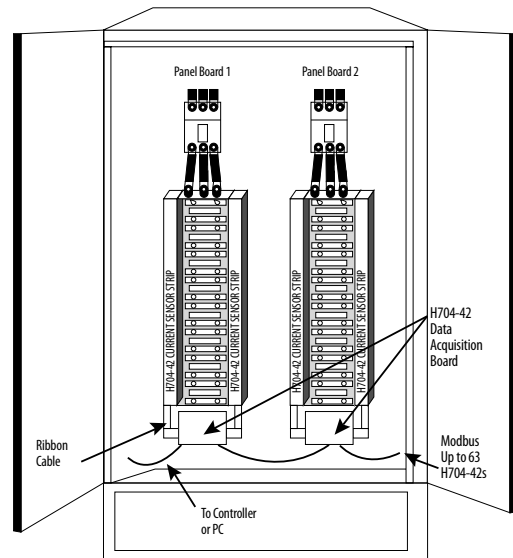
H8936 Network Display, see page 110



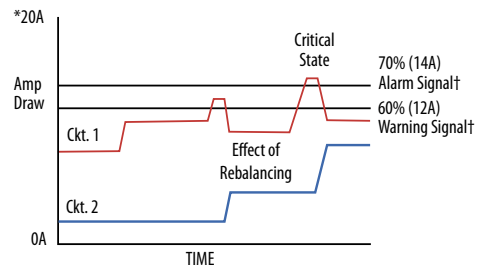
A simple solution for individual circuit current monitoring

- Up to 63 H704s can be networked on one Modbus RS-485 drop... simplified wiring
- A H704-42 reports current consumed on each circuit in the panel board...one product covers multiple points
- 3/4 or 1 inch on center current sensors accommodate standard breakers... easy installation
- Provides Modbus registers for current limit warnings and alarms... prevents breaker trips
- Integrates with available network display for local indication

TYPICAL PANELBOARD INSTALLATION



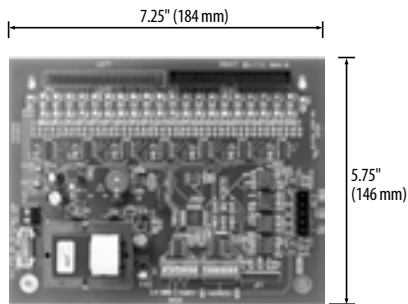
OPERATION EXAMPLE



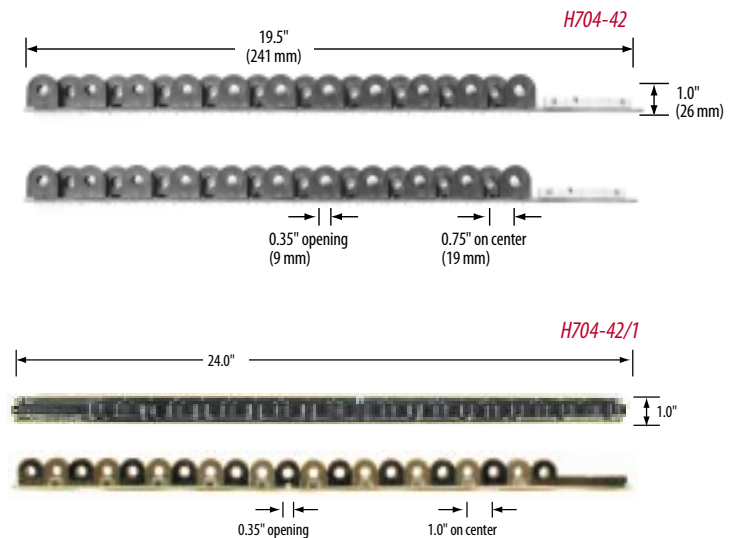
*Example represents 20 Amp circuit
†Configurable time delay for alarm and warning

DIMENSIONAL DRAWINGS

Signal Acquisition Board



Current Sensor Strip



SPECIFICATIONS

General:

Operating Temp. Range	0 to 60°C (<95%RH, non-condensing)
Storage Temp. Range	-40°C to 70°C
Power Source	120VAC (+10/-25%) line-to-neutral, 50/60Hz. (240VAC for H704-42E/H704-42/1E)

Measured Current Inputs:

Number of Channels	42
Frequency	50/60Hz.
Sample Frequency	1280Hz.
Update Rate	1.2 sec
Accuracy	±5% of reading from 5A to 50A
Overload Capability	≤50A 10kAIC breaker curve
Connection to Conductor	Solid-core toroid†

Network Communications:

Type	Modbus® RTU
Connection	DIP-switch selectable 2-wire or 4-wire
Address	DIP-switch selectable address 1 to 247
Baud Rate	DIP-switch selectable 2400, 4800, 9600, 19200
Parity	DIP-switch selectable NONE, ODD, EVEN
Communication Format	8 data-bits, 1 start-bit, 1 stop-bit
Termination	5-position pluggable connector; (TX+ TX- SHIELD TX+/RX+ TX-/RX-)

Defaults:

Warning Register	60% of current sensor rating (configurable)
Alarm Register	70% of current sensor rating (configurable)
Current Setting	20 Amp

Dimensions Cir. Board Only: H704-42		H704-42/1
CT Strips...(L x W)	19.5" (241mm) x 1.0" (26mm)	24.0" (607mm) x 1.0" (25mm)
Mainboard...(L x W)	7.25" (184mm) x 5.75" (146mm)	7.25" (184mm) x 5.75" (146mm)
<i>Brackets Only:</i>		
CT Strips...(L x W)	20.31" (516mm) x 0.75" (19mm)	25.06" (639mm) x 0.75" (19mm)
Sensor Spacing	0.75" (19mm) on center 1.0" (25mm) on center	

† Do not apply 600V Class current transformers to circuits having a phase-to-phase voltage greater than 600V, unless adequate additional insulation is applied between the primary conductor and the current transformers. Veris assumes no responsibility for damage of equipment or personal injury caused by products operated on circuits above their published ratings.

U.S. Patent Number 6,330,516



H704 Series transducers are sold as an open device. Observe handling precautions for static sensitive devices to avoid damage to the circuitry which would not be covered under the factory warranty.