1/16 DIN Temperature/Process Limit Controllers

CN2516 Series

- Dual Display
- Universal Input
- High/Low Limit
- Limit Relay Output (Fixed)
- Additional Modular Outputs (Optional)
- RS485 (Optional)
- Remote Reset (Optional)

CN2516

The CN2516 Series is part of a range of new generation of limit controllers that incorporate numerous product specification, communication, display interface and software improvements that surpass competitive limit device offerings in ease of use and programming. By adding more versatile features and user-friendly functionality like digital inputs, an easy-to-use HMI, jumperless and auto-hardware configuration, 24 Vdc transmitter power supply and MODBUS® communicationacross the range, the CN2516 limit controllertransform the complicated into the simple while saving you time (as much as 50% on product set-up), reducing inventory stock and virtually eliminating the likelihood of operator errors. The CN2516 limit controllers are affordable, well-featured, easy to use and adaptable with performance features that work for you to make limit control simple. The CN2516 is a fail-safe protection device to prevent damage toequipment or products. It will shut down process when a preset temperature is reached and cannot be reset by the operator until the process has returned to a safe condition.

Specifications

Environmental Characteristics

Operating Temperature: 0° to 55°C (32° to 131°F)

Storage Temperature: -20° to 80°C (-4° to 176°F)

Humidity: 20 to 95% non-condensing RH

Electrical

Supply Voltage: 100 to 240 V, 50/60 Hz, optional 20 to 48 Vac 50/60 Hz or 22 to 65 Vdc

Power Consumption: 5 W/7.5 VA maximum

Inputs

Thermocouples: J, T, K, L, N, B, R, S, C; Pt Rh 20% vs. Pt 40% Rh

RTD: 3-wire, PT100 DC linear (scalable -1999 to +9999)

Volts: 0 to 5V, 1 to 5V, 0 to 10V, 2 to 10V

DC Milliamps: 0 to 20 mA or 4 to 20 mA

DC Millivolts: 0 to 50mV, 10 to 50mV

Outputs

Output 1: (Limit relay) fixed; outputs

Output 2 and 3: (Alarm relay) are user-selectable and customized based on desired application; choose from the following output types

Maximum # of Outputs: 3 for alarm, 24 Vdc transmitter power supply or retransmit of process value/limit trip setpoint

Limit Relay: SPDT; 240 Vac 5 A resistive; lifetime >100,000 operations at rated voltage/current

Alarm Relay: Optional SPDT; 240 Vac 2 A resistive; lifetime >500,000 operations at rated voltage/current

SSR Drive:

Optional Drive Capability: >10 Vdc nominal into 500 Ω minimum

DC Linear: Optional 0 to 20 mA, 4 to 20 mA into 500 Ω max; 0 to 10V, 1 to 5V, 2 to 10V, 0 to 5V into 500 Ω min; outputs have 2% over/under drive applied; accuracy ±0.25% (mA into 250 Ω load, V into 2k Ω load); degrading linearity to ±0.5% for increasing burden to specified limits

Triac: Optional 0.01 to 1 A AC, 20 to 280 Vrms, 47 to 63 Hz (limit 2)

Transmitter Power Supply: Optional 24 Vdc (limit 1)

Output Functions

Process Alarm: (Reverse or direct) modes (alarm 1 and 2): high/low, band, deviation, logical OR/AND

Retransmit: Process value or limit setpoint

Electrical Performance

Accuracy: ± 0.1% of input range ±1 LSD (thermocouple CJC better than 1°C)

Input Sample Rate: 4 per second, 14-bit resolution

Impedance: >10M Ω for the thermocouple and mV ranges, 47 kΩ for V ranges and 5 Ω for mA ranges

Sensor Break Detection: <2 seconds (except zero based DC ranges), limit output opens, low alarms activate for RTD, mA or V ranges

Communications Interface

User-Selectable: 2-wire, RS485 serial communications option with choice of MODBUS RTU or ASCII protocol; 1200 to 19200 baud

PC Configuration: Offline configuration from serial port to dedicated configuration socket (comms option not required)

Protection

IEC IP66 (NEMA 4X) front panel IEC IP20 (behind the panel protection)

Dimensions

Panel Cutout: 45 x 45 mm (1.77 x 1.77")

Height: 48 mm (1.89")

Width: 48 mm (1.89")

Depth: 110 mm (4.33")

Weight: 0.21 kg (0.46 lb)

Mounting: Plug in panel with fixing strap

Input Type	Range
K	-328 to 1399°F (-200 to 1373°C)
J	32 to 1401°F (0 to 761°C)
T	-328 to 503°F (-200 to 262°C)
N	32 to 2550°F (0 to 1399°C)
R	32 to 3002°F (0 to 1650°C)
S	32 to 3000°F (0 to 1649°C)
B	211 to 3315°F (100 to 1824°C)
L J DIN	32 to 1403°F (0 to 762°C)
C	32 to 4208°F (0 to 2320°C)
Pt 100 RTD (0.00385)	-328 to 1472°F (-199 to 800°C)
0 to 20 mA, 4 to 20 mA	-1999 to 9999
0 to 10 Vdc, 0 to 5 Vdc, 0 to 50 mVdc	-1999 to 9999

CN2516

To Order *Visit omega.com/cn2516 for Pricing and Details*

Model No.	Description
CN2516-R1	Single output, relay
CN2516-R1-LV	Single output, relay, low voltage
Output and Communications Options (Field Installable modules)	
Output 2 and 3 Slot	
2500X-R	Relay module
2500X-DC	DC pulse module
2300X-F2	Linear DC module
2500X-T	Triac module (output 2 only)
2300X-TPS	Transmitter power supply (output 3 only)
Option A Slot	
2300X-485	RS485 communications
2300X-DI	Digital input

OMEGA CARE℠ Extended Warranty Program

OMEGACARE℠ extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARE℠ covers parts, labor and equivalent loaners.

Model No.	Description
CN2500-SOFT	Configuration software
CNQUENCHARC	Noise suppression kit, 110 to 230 Vac

Comes complete with mounting bracket and operator's manual.

***Ordering Example: CN2516-R1,** single output controller and operator's manual.*

***OCW-2,** OMEGACARE℠ extends standard 3-year warranty to a total of 5 years.*