

WEST™ brand

6400™

Small Size - Maximum Functions

1/16 DIN Profile Controller

SPECIFICATIONS*

STANDARD FEATURES

- Dual Display for fast view of process and control parameters
- Full PID capability
- Universal input for voltage, current, thermocouple and RTD
- Profile Cycling
- Program loading via communications port

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% RH, non condensing

ELECTRICAL

- Line Voltage:** 90 - 264VAC, 50/60 Hz
- Power Consumption:** 4 Watts
- Common Mode Rej.:** 120 db at 50/60 Hz
- Series Mode Rej.:** > 500% of span 50/60 Hz

INPUTS

- Thermocouple types:** J, K, T, R, S, B, L, and N.
- RTD:** Three-wire PT100, DIN 43760
- Volts (VDC):** 0 to 5, 1 to 5, 0 to 10, 2 to 10
- Millivolts:** 0 to 50mVDC, 10 to 50mVDC
- Milliamps:** 0 to 20 or 4 to 20mADC
- Sample Rate:** 250 ms

OUTPUTS

- Relay:** SPDT rated at 2 amps resistive at 120/240 VAC
- SSR Driver:** > 4.3 VDC into 250Ω minimum
- Triac Output:** 1 amp @ 40°C derated to 1/2 amp @ 80°C
- Current Output:** 0 - 20 mA, 4 - 20 mA, eight bit resolution
- Volts DC Output:** 0 - 10 V, 0 - 5 V, eight bit resolution

CONTROL

- Control Types:** RaPID, PID, PID/on-off, on-off
- RaPID:** Response Assisted PID is a fuzzy logic mixing/weighting of P, I, and D terms to provide dramatic performance improvements as compared to conventional PID techniques.
- Auto Tune Types:** Pre-Tune
- Proportional Bands:** 0 (OFF), 0.5% to 999.9% of input span @ 0.1% increments
- Auto Reset:** 1s-99min 59sec and OFF
- Rate:** 0 (OFF) - 99min 59sec
- Manual Reset:** Adjustable in the range 0-100% of output power (single output) or -100% to +100% of output power (dual output)

- Deadband/Overlap:** -20% to +20% of proportional band 1 + proportional band 2
- ON/OFF Hysteresis:** 0.1% to 10.0% of input span
- Auto/Manual Control:** User-selectable with "bumpless" transfer into and out of Manual control.
- Cycle Times:** Selectable for 0.5sec to 512sec in binary steps
- Setpoint Range:** Limited by Setpoint Upper and Setpoint Lower Limits
- Setpoint Ramp:** Ramp rate selectable 1-9999 LSDs per hour and infinite. Number displayed is decimal point aligned with selected range.

ALARMS

- Maximum Number:** Two "soft" alarms
- Maximum # Outputs:** Up to 2 outputs can be used for alarm purposes
- Combination Alarms:** Logical OR or AND of alarms to an individual hardware output is available.

DISPLAY

- Digital Display:** Dual 7 segment LED; Top: .36" high, Bottom .28" high.
- Status Indicators:** Individual LED indicators for OUT, Exceed, ALM, and when in Setup

PROGRAM/PROFILE SPECIFICATIONS

- Programs:** Four with 16 free form steps each
- Length of program:** 16 steps per program
- Step Types:** Ramp, dwell (soak), or end
- Program cycling:** 1 to 9999 cycles, or infinite
- Delayed start:** 0 to 99:59 hours:minutes or minutes seconds, depending on the time base selected.
- Control:** Start, Run, Hold and Abort from keypad if remote run/hold is not used. Remote start, run, and hold if the option is turned on.
- Start From:** Current process value or setpoint.
- At End:** Controls at the last setpoint.
- Guaranteed Soak:** During dwells (soak) the controller can be programmed to stop advancing the dwell time while the process value is outside a specific band around setpoint. This capability can be disabled or the controller can be set to wait until instructed to "run" after the soak time has expired.
- Time Base:** Hours:Minutes or Minutes:Seconds.
- Step Time:** 0 to 99:59 hours:minutes or minutes seconds, depending on the time base selected.
- Ramp Rate:** 0 to 9999 least significant digits per hour or minute, depending on the time base. (this applies only when the program mode is set to Rate.)

- Event Output:** Programmable to ON or OFF at the beginning of each step. Output 2 or 3 can be used as the event output.
- Profile Active:** Output 2 or 3 can be set to be energized or de-energized whenever a profile/program is running.
- Power Loss Recovery:** If power is removed and applied while a profile is running, the unit can be programmed to re-start or continue the profile.

REMOTE RUN/HOLD INPUT (OPTION)

- Type:** Voltage free or TTL compatible
- ON -** Currently selected program will run or (if currently held) resuming running.
- OFF -** Currently running program will be held.
- Voltage free Operation:** Connection of contacts to external switch or relay; contacts open = OFF (minimum contact resistance = 5000Ω), contacts closed = ON (maximum contact resistance = 50Ω)
- TTL levels:** ON: -0.6V to 0.8V
OFF: 2.0V to 24V
- Maximum Input Delay (OFF-ON):** 1 Second
- Minimum Input Delay (ON-OFF):** 1 Second

PHYSICAL DIMENSIONS

- Dimensions:** 1/16 DIN front panel, 110mm (4.3") deep
- Front Panel Rating:** NEMA 4X/IP65
- Weight:** 227 g. (8 oz.) maximum

COMMUNICATIONS

- Type:** RS-485 serial communication port
- Protocol:** MODBUS/RTU

RATINGS/AGENCY APPROVALS

- CE, UL & cUL recognized (E67237),

WARRANTY

- 3 years

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Customer Service +1 800.390.6405 • Technical Support +1 800.866.6659
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