



## DSL SERIES, DIGITAL COMBINATION CONTROLS

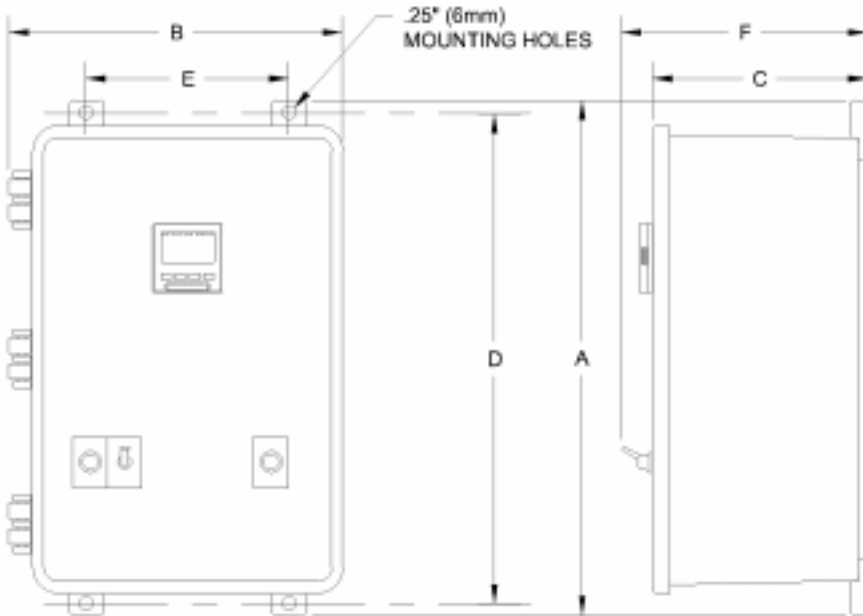
CONTROL MODEL NUMBER	VOLTS	MAX. AMPS	REPL. RELAY P/N	REPL. RELAY P/N (LESS TRANS.)	REPL. TRANS. P/N	REPL. SENSOR P/N	SHIP WGT. Lbs./kg)
DSL302	240	30	AH30-1	AH30-2	HD50 2/1	RTD1000	16
DSL304	480	30	AH30-1	---	HD50 4/1	RTD1000	(7.5)
DSL502	240	50	AH50-1	AH50-2	HD50 2/1	RTD1000	17
DSL504	480	50	AH50-1	---	HD50 4/1	RTD1000	(8)
DSL752	240	75	AH75-1	AH75-2	HD100 2/1	RTD1000	23
DSL754	480	75	AH75-1	---	HD100 4/1	RTD1000	(10.5)
DSL902	240	90	AH90-1	AH90-2	HD100 2/1	RTD1000	25
DSL904	480	90	AH90-1	---	HD100 4/1	RTD1000	(11.5)
DSL1202	240	120	AH120-1	AH120-2	HD100 2/1	RTD1000	27
DSL1204	480	120	AH120-1	---	HD100 4/1	RTD1000	(12.5)
DSL1502	240	150	AH150-1	AH150-2	HD150 2/1	RTD1000	33
DSL1504	480	150	AH150-1	---	HD150 4/1	RTD1000	(15)

Combination control consists of gasketed plastic enclosure, thermostat, contactor and optional control transformer. To omit step-down transformer, add "LT" to end of model number.

## Product Features and Benefits:

- ◆ **IMPROVES PROCESS CONTROL:** Easy to read dual LED displays (.3 inches high). Two set points (heating and cooling). Provides precise control for consistent plating and etch rates in most aqueous processes.
- ◆ **TEMPERATURE SENSOR:** Fluoropolymer (FEP) covered 10-foot (3m), 1000-ohm platinum RTD sensor included standard with the control. Provides extended service in corrosive liquids and can be lengthened with ordinary copper hookup wire.
- ◆ **CORROSION RESISTANT ENCLOSURE:** NEMA 1, IP23, gasketed plastic enclosure with sealed tactile switches and stainless steel hardware.
- ◆ **CERTIFICATIONS:** cUL.
- ◆ **CAPACITIES:**
  - Large switching capacities from 30 to 150 amps for either 240 or 480 volts (other voltages available).
  - Single pole single-throw switch rated at 3 amps for cooling loads.
  - Adjustable temperature range from -328°F (-200°C) to 4208°F (2320°C).
  - +/- .25% full span, single digit accuracy.
  - 20°F (-7°C) to 130°F (54°C) ambient temperature range.
  - 120, 208, 380, 415, 600 and other voltages available.
  - Single or three phase.
  - Control transformer required above 240 volts and recommended for 208 and 240 volt service.
- ◆ **SPECIAL FEATURES:** Auto tune PID, PID or On/Off control with Auto/Manual operation.
- ◆ **SAFETY FEATURES:**
  - Pre-wired PI terminal blocks.
  - Non-volatile memory.
  - Programmable high alarm shutdown.
  - Sensor short and break protection.
  - Programmable high setpoint limit.
  - Security code restricted menu.
- ◆ **OPTIONS AVAILABLE (consult factory):**
  - 25-foot (7.6m) and 50-foot (15.2m) sensors.
  - Pre-wired outlets for plug-in heaters (some sizes).
  - Ground fault protection (GFP) circuitry.
  - PII or PIII thermal protection systems.
  - Integral liquid level control components.
  - Front panel mounted digital timers.
  - Three wire 100-ohm RTD sensors.
  - Type J, K, T, and R thermocouples.
  - Special sensors. Required for temperatures above 500°F (260°C).
  - Scalable voltage and current inputs.
  - 4-20 mA or 0-10VDC outputs for process recording.
  - 4-20 mA or 15VDC control outputs.
  - Voltage, relay, logic/SSR and current outputs.
  - RS232 or RS485 communication protocol.
  - CE compliance.
  - Outdoor enclosures.

## DIMENSIONS



Dimensions	30-50 Amps	75-120 Amps	150 Amps
A	14.375" (365 mm)	15.5" (394 mm)	17.5" (445 mm)
B	9.5" (241 mm)	13.75" (349 mm)	15.75" (400 mm)
C	6.25" (159 mm)	7.625" (194 mm)	8.375" (213 mm)
D	13.625" (346 mm)	14.75" (375 mm)	16.75" (425 mm)
E	6" (152 mm)	10" (254 mm)	12" (305 mm)
F	7.025" (178 mm)	8.4" (213 mm)	9.15" (232 mm)

## DSL COMBINATION CONTROL ORDERING INFORMATION

Series	Amperes	Voltage	Misc. Options	Stepdown Transformer	Standard Options
DSL	30 50 75 90 120 150  1 = 120 2 = 240 4 = 480 -208 = 208 -380 = 380 -415 = 415 -600 = 600 (or specify)		x = misc options not listed in last column such as: -branch fusing -larger relays -multiple relays -pump controls -NEMA 4X enclosure -air cooled solid state relays -thermocouple sensors (J, K, R, S, T) (consult factory for details)	-LT = no transformer (not for voltages higher than 240V)	-PII = thermal protector II -PIII = thermal protector III -LC = conductive liquid level -ESP = capacitive liquid level terminals -DTS = digital timer -GFP = ground fault detection -CE = CE compliant -MAR = milliamp output (recording) -VR = voltage output (recording) -E = outlet for plug-in heater -RS = RS485 protocol -MS = multistage set points -VS = burst firing SSR's (PID) -MAC = current loop SSR firing (PID) -25 = 25 foot RTD sensor -50 = 50 foot RTD sensor -H = high temperature sensor -TEF = additional FEP sensor sleeve

### ORDERING EXAMPLE:

DSL302-LT-PII

DSL series combination control, 30 amps, 240 volt, less step down transformer, PII thermal protector option.

