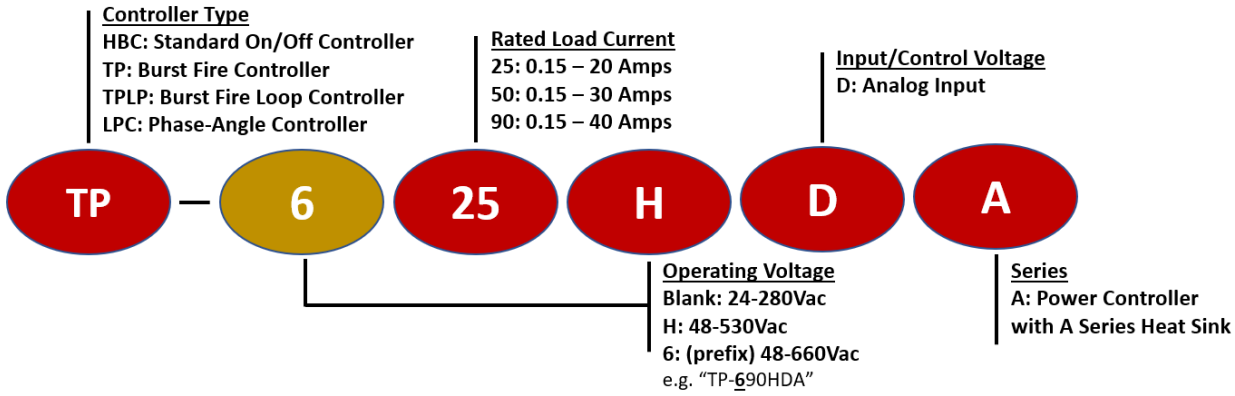
# A Series TP
# 40 Amp Burst Fire Power Controller

- SCR output DIN mount proportional output (burst fire) Power Controller
- Output ratings up-to 40 amps @ 40°C ambient temperature
- True linear output controller with selectable soft-start, suitable for resistive or inductive loads
- Selectable analog input; 0-10Vdc, 1-5Vdc, 2-10Vdc, 1-5Vdc, 4-20mA or potentiometer
- Line-voltage compensation with automatic 50/60Hz operation
- Thermally efficient heat sink to maximize overall product life expectancy
- Direct-bond copper (DBC) substrate for superior thermal performance
- MTBF > 7 million hours (>800 years)
- Solid-state relay approvals include VDE/TÜV and CE

## Series Nomenclature




## Output Specifications

| Part Number: TP - | 25DA | 25HDA | 50DA | 50HDA | 90HDA | 690HDA |
|---|---|---|---|---|---|---|
| Crydom Solid-State Relay Utilized* | D2425 | HD4825 | D2450 | HD4850 | HD4890 | HD6090 |
| Operating Voltage (Vrms; 47-440Hz) | 24-280 | 48-530 | 24-280 | 48-530 | 48-530 | 48-660 |
| Load Current Range (Amps RMS) | .15 - 20 | .15 - 20 | .15 - 30 | .15 - 30 | .15 - 40 | .15 - 40 |
| Transient Overvoltage (Vpk) | 600 | 1200 | 600 | 1200 | 1200 | 1200 |
| Max. Surge Current (Apk; 50/60Hz) | 239/250 | 239/250 | 597/625 | 597/625 | 1145/1200 | 1145/1200 |
| Max. On-State Voltage Drop (Vrms) | 1.15 | 1.15 | 1.15 | 1.15 | 1.15 | 1.15 |
| Max $I^2T$ for Fusing ($A^2S$; 50/60Hz) | 285/259 | 285/259 | 1770/1629 | 1770/1629 | 6560/5976 | 6560/5976 |
| Max. Off-State Leakage Current (mArms) | 1 | 1 | 1 | 1 | 1 | 1 |
| Min. Power Factor with Max. Load | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |

*UL Recognized Components - E116949

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## Input Specifications (Selectable on controller) *

| | |
|---|---|
| 0-10Vdc | 4-20mA |
| 0-5Vdc | 0-20mA |
| 2-10Vdc | Potentiometer |
| 1-5Vdc | 0-135Ω (change prefix to "TP135-") |

* 24Vac power supply required (optional HBControls PS series if 24Vac supply is not available). Must be connected to same phase as the Power Controller.

## General Specifications

| Description | Specification |
|---|---|
| Dielectric Strength (Input/Output/Heat Sink) | 4,000 Vrms |
| Ambient Operating Temperature Range | -40 to +80 °C |
| Weight | 0.75 lbs (340 g) |
| Solid State Relay Housing Material | UL94 V-0 Polymers |
| Heat Sink Material | Aluminum |
| Input Terminal Screw Torque Range (in-lb/Nm) | 13-15 / 1.5-1.7 |
| Load Terminal Screw Torque Range (in-lb/Nm) | 18-20 / 2.0-2.2 |
| MTBF (Mean Time Between Failures) @ 40°C ambient | ~11 Million Hours (>1,300 years) |
| MTBF (Mean Time Between Failures) @ 60°C ambient | ~7 Million Hours (>800 years) |

## Available Options (Suffix at end of part number)

| | |
|---|---|
| -10 | Random/Instantaneous turn-on (inductive loads) |
| -M | MOV (metal oxide varistor) overvoltage protection |
| -P | Internal TVS overvoltage protection |
| -TP | Through-panel mounting |
| -PM | Panel mounting |
| -ND | Without DIN rail clip |
| -CT | Current transducer |
| -2 | Two-pole configuration (for three-phase loads) |
| -3 | Three-pole configuration (for three-phase loads) |

## Accessories (add "-3" suffix for three-phase power supply)

| | |
|---|---|
| PS-120 | 120Vac to 24Vac / 1.5VA power supply |
| PS-240 | 240Vac to 24Vac / 1.5VA power supply |
| PS-480 | 480Vac to 24Vac / 1.5VA power supply |

## Input Options (Change TP- prefix to TPLP or LPC prefix)

**TPLP** Burst fire loop (time proportioning loop) controller. Analog Input; 4-20mA (24Vac supply not required)

**LPC** Linear phase-angle controller. Analog Input; 0-10Vdc, 0-5Vdc, 2-10Vdc, 1-5Vdc, 4-20mA, potentiometer or 0-135Ω rheostat (LPC135 prefix). 24Vac power supply required (optional HBControls PS series if 24Vac supply is not available)

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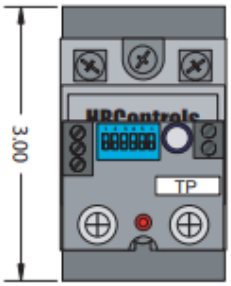
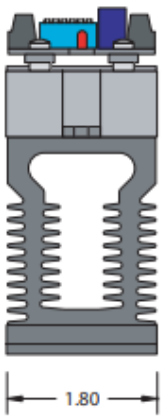
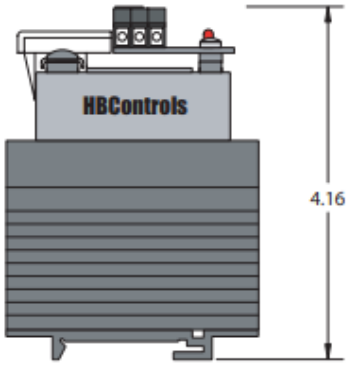
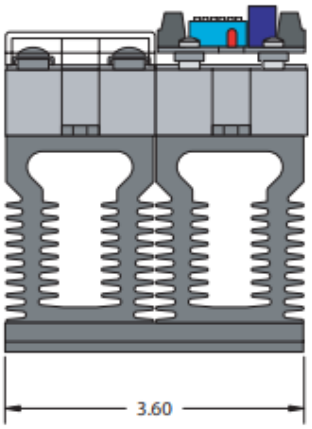
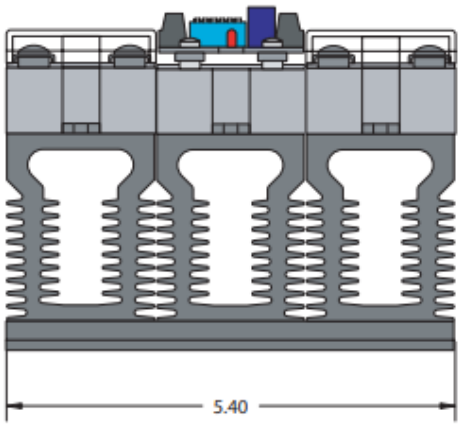



*3 Phase/*
*2 Pole*
*(-2 Option)*




*3 Phase/*
*3 Pole*
*(-3 Option)*