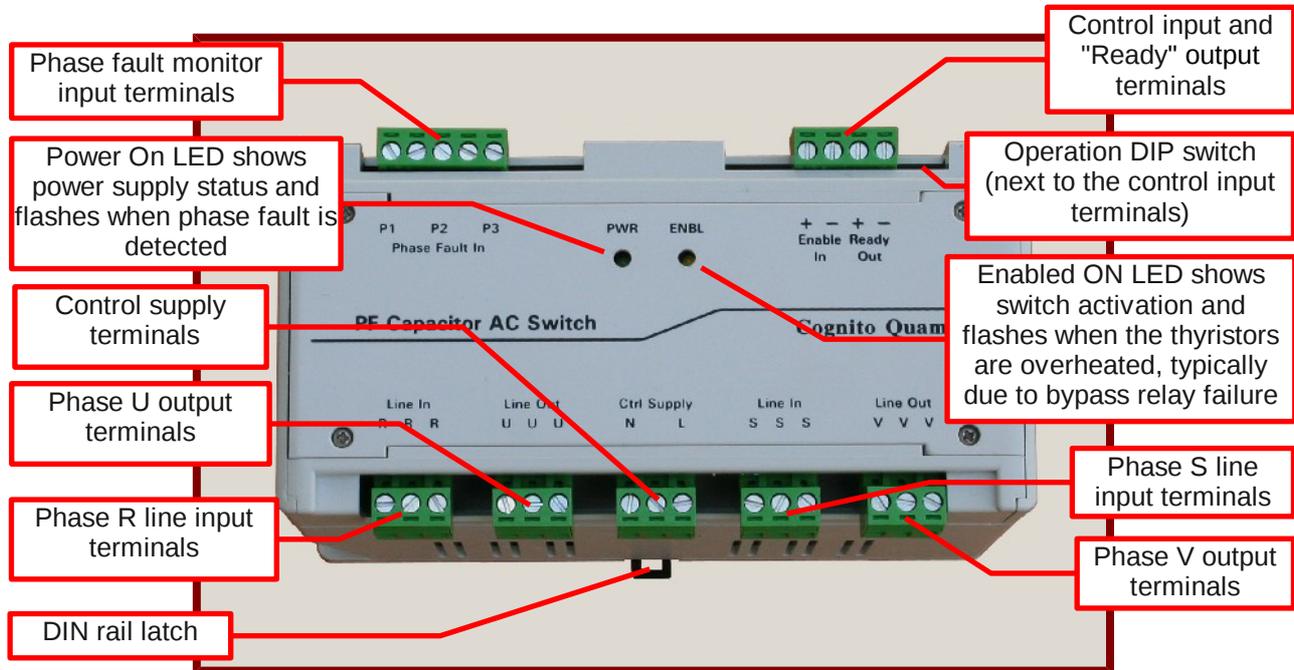


CACSW Integrated Power Factor Capacitor AC Switch

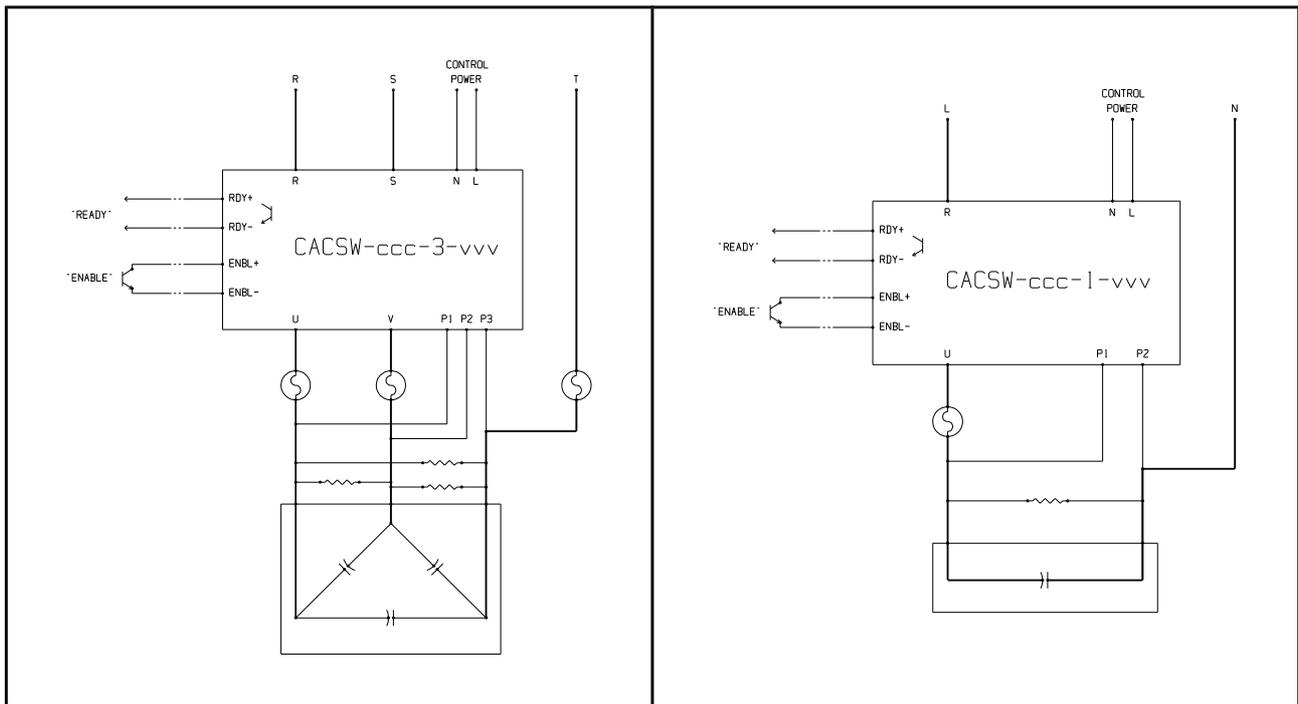
The CACSW connects a three- or single-phase, 25 A power factor capacitor bank to the line, employing bypassed, zero crossing, solid state thyristor switches. Its phase fault detector can be used to either monitor the line for phase integrity or the capacitor bank circuit for fuse state as well as line faults.



The CACSW PF capacitor AC switch

The CACSW solid state thyristor switches connect to the capacitor bank at zero voltage difference without any disturbing inrush currents. They are then bypassed by a relay to eliminate all thyristor conduction losses and are protected against overheating, typically caused by failure of the relay contacts. The control input is digitally filtered to reject noise and the unit responds within a maximum time of 2.5 seconds.

| CACSW Feature Summary | |
|--|--|
| Line connection | Powered independently, no connection to the neutral is required. |
| Own control supply | Powered separately at the control supply terminals. |
| Overheat protected solid state relays | Solid state relays circuits switch the 25 A compensating capacitors in and out of the line at every sampling instant. |
| Zero crossing type solid state relays | Each capacitor is switched in when the line voltage equals the capacitor voltage thus eliminating capacitor inrush current and extending capacitor service life. |
| Switch bypass relay | Bypass relay across each solid state switch minimizes/eliminates switch losses. |
| Sampling time | Minimum 1 second sampling time gives a maximum 2.5 s response time. |
| Phase fault detector | The switch is monitored for phase faults and/or blown fuses. |
| Stand-alone or slave operation | DIP switch selectable slave mode allows stand-alone or external master control. |
| Forced state | DIP switch forced state turns the switch on regardless of control input state. |
| Indicating LEDs | LEDs show the power supply state ("PWR", green) and the switch activation status ("ENBL", yellow). The "PWR" LED flashes on a detected phase fault (or blown fuse) while the "ENBL" flashes on thyristor switch overheating. |
| Isolated control circuit | Control circuit is galvanically isolated enhancing safety and noise immunity. |
| Protection | Against line overvoltages, faults and power circuit overheating. |
| DIN rail enclosure | Versatile DIN rail mountable plastic box. |
| Removable terminals | Removable terminal blocks ensure quick and neat wiring installation. |



Typical CACSW system switching a three-phase (left) and single-phase (right) capacitor in and out of the line. The capacitor is protected by a fuse in each live phase with the CACSW detecting their state at the P1, P2, P3 inputs. The bleed resistors can be any convenient value as the capacitor is connected at zero voltage difference with the line and no special discharge timing applies. The switch is activated at the ENBL control input and its status is reported by the RDY output. Control power may be directly obtained from the line or from a separate control/instrumentation line. The high capacitor current path is shown in bold.

| Ordering Information by Line System and Control Supply Voltage (Not shown combinations are available on a custom order basis) | | | | | |
|--|---|---|--|--|--|
| Description | Single phase 110-130 V, 50-60 Hz lines | Single phase 220-240 V, 50-60 Hz lines | Three-phase 3x220-240 V, 50-60 Hz lines | Three-phase 3x400 V, 50-60 Hz lines | Three-phase 3x480 V, 50-60 Hz lines |
| Power factor capacitor AC switch, 110-130 VAC supply | CACSW-115-1-115 | | CACSW-115-3-230 | | CACSW-115-3-480 |
| Power factor capacitor AC switch, 220-240 VAC supply | | CACSW-230-1-230 | CACSW-230-3-230 | CACSW-230-3-400 | CACSW-230-3-480 |
| Power factor capacitor AC switch, 400 VAC supply | | | | CACSW-400-3-400 | |
| Power factor capacitor AC switch, 480 VAC supply | | | | | CACSW-480-3-480 |

| Supplied by |
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