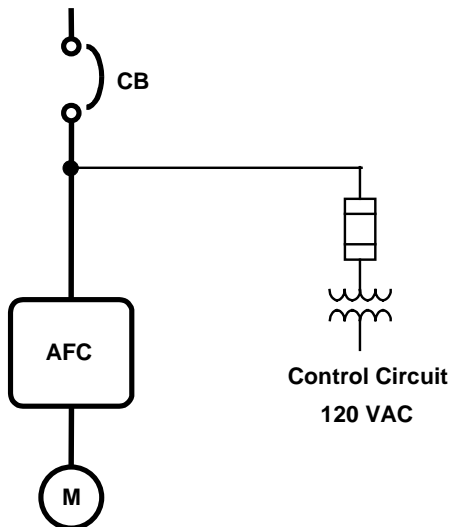


Description of Power Circuit Configuration for Class 8839 ECONO-flex™ AC Drives

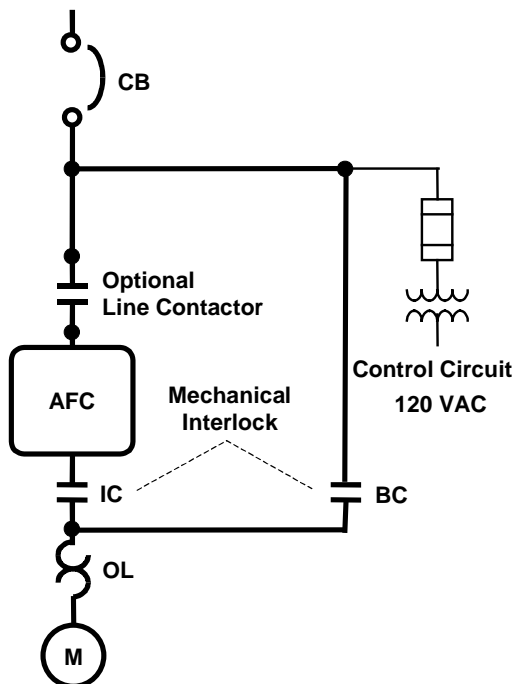
□ NON-BYPASS: "Power Circuit W"



The "Power Circuit W" assembly includes:

- 120 V fused control transformer
- Circuit breaker disconnect with means for locking in the open position
- Hand-Off-Auto switch and a manual speed potentiometer are provided as the standard control interface unless other options are selected.

□ BYPASS: "Power Circuit Y"



The "Power Circuit Y" assembly includes:

- IEC-rated isolation and bypass contactors with mechanical and electrical interlocking and a Class 20 overload relay.
- 120 V fused control transformer and circuit breaker disconnect with lockout/tag out capability.
- AFC-Off-Bypass switch and Hand-Off-Auto switch with manual speed potentiometer are provided as standard control interface unless other options are selected.
- Test-Normal selector switch provides drive controller testing capability without running the motor and allows drive controller testing if bypass mode is selected. The isolation contactor is sequenced open to provide drive isolation during the test mode.

Description of Enclosure Modifications for Class 8839 ECONO-flex™ AC Drives **Type 12K Enclosure (if used)**

Replaces the standard Type 1 enclosure with a Type 12K enclosure (with conduit knockouts), to provide an additional degree of protection in dusty and dripping-liquid environments.

 Type 3R Enclosure (if used)

Replaces the standard Type 1 enclosure with a Type 3R enclosure (with bottom-only conduit knockouts), to provide an additional degree of protection in outdoor environments. Ambient controller operating temperature of -10 to 50 °C (14 to 122 °F).

Description of Modifications (Options) for Class 8839 ECONO-flex™ AC Drives **MOD “A07” Hand-Off-Auto and Speed Potentiometer (factory supplied)**

Provides a two-wire control strategy and allows auto restart capability. Moving the Hand-Off-Auto switch to the Off position resets a drive fault condition.

 MOD “B07” Hand-Off-Auto, Start/Stop, and Speed Potentiometer (if used)

Provides three-wire control strategy momentary Start and Stop pushbuttons to the factory-supplied Hand-Off-Auto selector switch and manual Speed Potentiometer. In the Hand mode only, this option will not allow auto restart capability. Moving the Hand-Off-Auto switch to the Off position resets a drive fault condition.

 MOD “C07” Start/Stop and Speed Potentiometer only (if used)

Replaces the factory-supplied Hand-Off-Auto selector switch with momentary Start and Stop pushbuttons. Speed control is accomplished via the door-mounted manual Speed Potentiometer. Automatic (remote) mode selection is not provided.

 MOD “N07” Delete Hand-Off-Auto Switch and Manual Speed Potentiometer (if used)

Removes the factory-supplied Hand-Off-Auto switch and manual Speed Potentiometer. Under certain conditions, the user may prefer to control the power converter by means of a remote or external source only. **The user provides the control sequence logic.** Refer to Square D instruction bulletin 30072-450-10 for details on the recommended sequence of operation.

 MOD “A08” Pilot Light Cluster (if used)

Provides visual indication of protective functions and circuit status. The pilot devices are rated 120 V. Included within this configuration are:

- **Power On (Red):** Illuminates whenever mains power is applied to the controller.
- **AFC Run (Green):** Illuminates whenever drive output relay R2 (programmed for running state) is high, to annunciate a drive run condition.
- **Auto Mode (Yellow):** Illuminates whenever the Hand-Off-Auto switch is in the Auto position, controlled by a contact block on the switch.
- **AFC Fault (Yellow):** Illuminates (via relay ADFR) whenever drive output relay R1 (programmed for fault state) is low, to annunciate a fault condition. This light is normally off until a drive protective circuit has caused an abnormal shutdown.

Description of Modifications (Options) for Class 8839 ECONO-flex™ AC Drives, cont. **MOD “B08” Pilot Light Cluster (if used)**

Provides visual indication of protective functions and circuit status. Only available on power circuit Y. The pilot devices are rated 120 V. Included within this configuration are:

- **Power On (Red):** Illuminates whenever mains power is applied to the controller.
- **AFC Run (Green):** Illuminates whenever drive output relay R2 (programmed for running state) is high, to annunciate a drive run condition.
- **Bypass Run (Yellow):** Illuminates whenever the bypass contactor coil is energized.
- **AFC Fault (Yellow):** Illuminates (via relay ADFR) whenever drive output relay R1 (programmed for fault state) is low, to annunciate a fault condition. This light is normally off until a drive protective circuit causes an abnormal shutdown.

 MOD “C08” Pilot Light Cluster (if used)

Provides visual indication of protective functions and circuit status. The pilot devices are rated 120 V. Included within this configuration are:

- **Power On (Red):** Illuminates whenever mains power is applied to the controller.
- **AFC Run (Green):** Illuminates whenever drive output relay R2 (programmed for running state) is high, to annunciate a drive run condition.
- **AFC Fault (Yellow):** Illuminates (via relay ADFR) whenever drive output relay R1 (programmed for fault state) is low, to annunciate a fault condition. This light is normally off until a drive protective circuit causes an abnormal shutdown.

 MOD “A09” Line Reactor (if used)

Provides an AC line reactor factory-wired between the circuit breaker and the power converter terminals L1, L2 & L3. Line reactors are included in the drive controller as standard on ratings 30 horsepower and above, 460 V (15 horsepower and above, 208/230 V).

 MOD “B09” Line Isolation Contactor (if used)

Provides a line isolation contactor factory-wired between the circuit breaker and the power converter terminals L1, L2 & L3. This mod is only available with bypass configurations (power circuit Y).

 MOD “C09” 3–15 PSI Module (if used)

Provides a pneumatic transducer to allow the controller to follow a user-supplied 3–15 PSI speed reference signal.

 MOD “E09” Smoke Purge Option (if used)

A smoke purge relay (SPR) permits the motor to operate at full speed. When a bypass is supplied, the controller will operate in the Bypass mode. This circuit requires a user-supplied 120 VAC signal to energize the SPR relay to run the motor at full speed.

 MOD “G09” 22K AIC UL Coordinated Rating (if used)

Provides a fully coordinated 22K AIC rating marked on the enclosure nameplate. Short-circuit coordination meets UL508C and NEMA ICS 7.1.

Description of Modifications (Options) for Class 8839 ECONO-flex™ AC Drives, cont. **MOD “H09” Analog Output (if used)**

Provides an analog I/O Extension Card, factory-installed on the drive controller to provide a 0 or 4–20 mA selectable analog output. The analog output can be programmed for indication of speed, current or motor torque. Z = 500 ohms.

 MOD “J09” Automatic Speed Reference 0–10 Vdc Input (if used)

Provides a factory-installed analog 0–10 Vdc speed reference input for automatic mode of operation. The signal transducer input is connected through a signal converter to AI2. Z = 100 Kohms.

 MOD “K09” cUL Listing (if used)

Provides Canadian cUL certification when required by local code requirements.

 MOD “L09” LONWORKS® Serial Communication (if used)

Provides factory-installed LONWORKS to MODBUS® module, 24 Vdc power supply and plug-in MODBUS card. Serial communication is factory-installed for register monitoring.

 MOD “M09” MODBUS® Serial Communication (if used)

Provides factory-installed plug-in MODBUS card and separate user termination to D-shell interface device. Serial communication is factory-installed for register monitoring.

 MOD “P09” METASYS® N2 Serial Communication (if used)

Provides factory-installed plug-in METASYS N2 card and separate user termination to D-shell interface device. Serial communication is factory-installed for register monitoring.