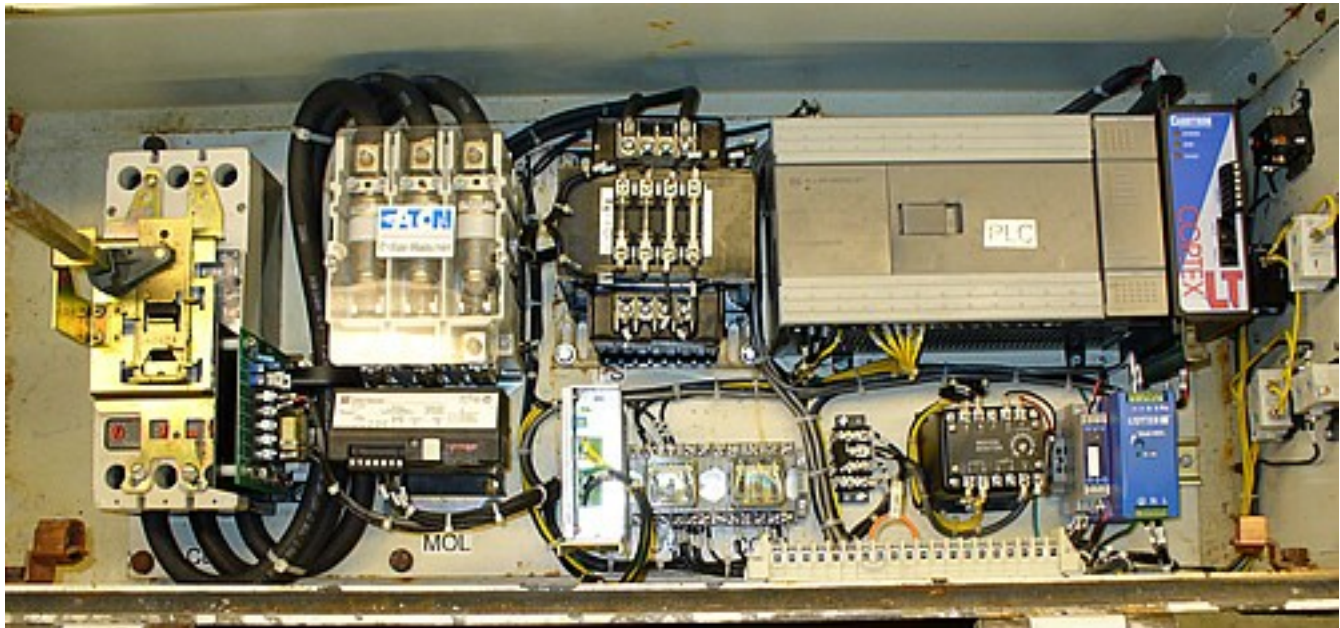


Functional Description

A self-contained controller that senses current on the **Rock Crusher/Pick Breaker Motor**, compares this with a desired, preset level (typically around 95% of full load), and modulates the rate of the feed conveyor to maintain this load. The unloaded pick motor draws a low current that causes the controller to call for a maximum conveyor speed. As product is delivered to the conveyor inlet and up to the breaker section, the pick/crusher motor current increases, reaching a trigger point at which the controller begins to reduce conveyor speed. A balance is established that keeps the feeder conveyor at a speed that maintains the pick motor current at the preset level. If the incoming material mix changes, the corresponding change in motor current causes the conveyor speed to move up or down, and even reverse, if the picks jam and stall.



Drive Compatibility

Versatile output will interface with most standard industrial variable speed drives (typically, +/- 10 VDC):

1 – DC Drives 2 – AC Inverter Drives 3 – Hydraulic/Hydrostatic Drives 4 – Eddy-Current Drives

Packaging

The following components are mounted on a rolled-edge steel sub-panel for mounting in customer's enclosure:

- AC Line circuit breaker (Operator handle & shaft are included for customer mounting on front panel.)
- Full-voltage rated contactors for Pick Motor & Conveyor Inverter. Enclosed Mercury Contactors, Opt.
- Electronic motor overload relays
- Pick motor current sensing transducer

PLC Industrial Controller provides supervision of these functions:

- Operational sequencing
- Monitoring of limit switches, operational sensors, and hard-wired safety interlocks
- Startup time delay after Start command. Includes light/horn annunciation output
- Conveyor zero-speed and belt breakage through customer-supplied inductive prox sensor
- Electronic 'shear pin' shutdown on inverter-controlled motor
- Start/Stop logic
- Auto-Stop of conveyor after unloaded runtime
- Manage external features (e.g., Dust control water mist valves, Auto conveyor start w/ photo eyes)
- *Carotron* Cortex LT[®] Digital Controller – The heart of the active feedback system.
- HMI Touch screen shipped loose for customer mounting on front panel of enclosure

Optional Features

- Sub-panel mounted and wired in a welded steel enclosure w/ HMI on enclosure cover
- Data monitoring and recording in real-time with extended storage capability in HMI
- Remote Process and Data monitoring through local plant network and Internet (Customer-provided connection)
- Remote troubleshooting and programming with plant-controlled limited access
- Automatic notification of system malfunctions through e-mail, text, cell phone, etc. (with Internet connection)

Electrical Ratings

- Horsepower range: 50 to 200 Horsepower at 230 or 460VAC (Both Pick & Conveyor motors)
- Low voltage (24VDC) control circuits

Call Us!

We welcome the opportunity to take a detailed look at your application. For more information, please contact Carotron, Inc. at **1-803-286-8614**. And visit us on the Web at **www.carotron.com** Let us review your application and offer the right components to do the job.

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