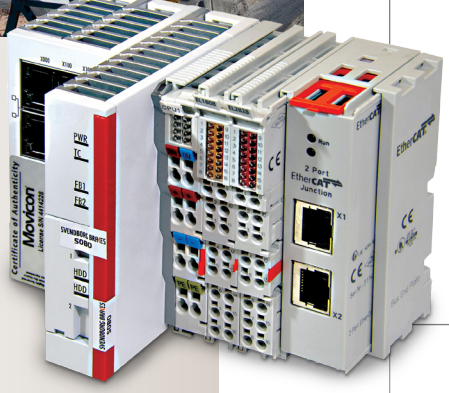


I N T R O D U C I N G

SOBO® iQ Controlled Braking for Conveyor Systems

For conveyor applications with hydraulic failsafe brakes where consistent stopping times or distances are desired and less wear and tear on equipment

The SOBO® iQ provides a soft and predictable braking sequence and is often utilized in conjunction with variable frequency drives in conveyors.

As a standalone unit, the SOBO® iQ is capable of controlling up to four different hydraulic power units up to 100km away. The SOBO® iQ is meant to be a single control unit for all of the brakes in a single mechanical chain.

BRAKING PERFORMANCE

In a system without quick release, when a brake open command is received by the SOBO® iQ, the system will activate the pump included in the HPU along with the appropriate valves in order to fill the included accumulators and build the pressure to release the brakes. When quick release is required, the accumulators will already be filled, eliminating the possibility of a delay. The SOBO® iQ also features multiple different startup ramps in order to customize the release of the brakes in the event that it is necessary to allow drives to build up torque during brake release. When a brake command is sent, the SOBO® iQ will begin a predefined braking ramp based on constant stopping time, constant stopping distance, constant braking torque or other braking ramps that can be customized to specialized requirements. Once the SOBO® iQ registers a speed of artificial zero, it will begin a parking sequence that can be defined simply as a complete dump of pressure or as sophisticated as a five segment open loop ramp.

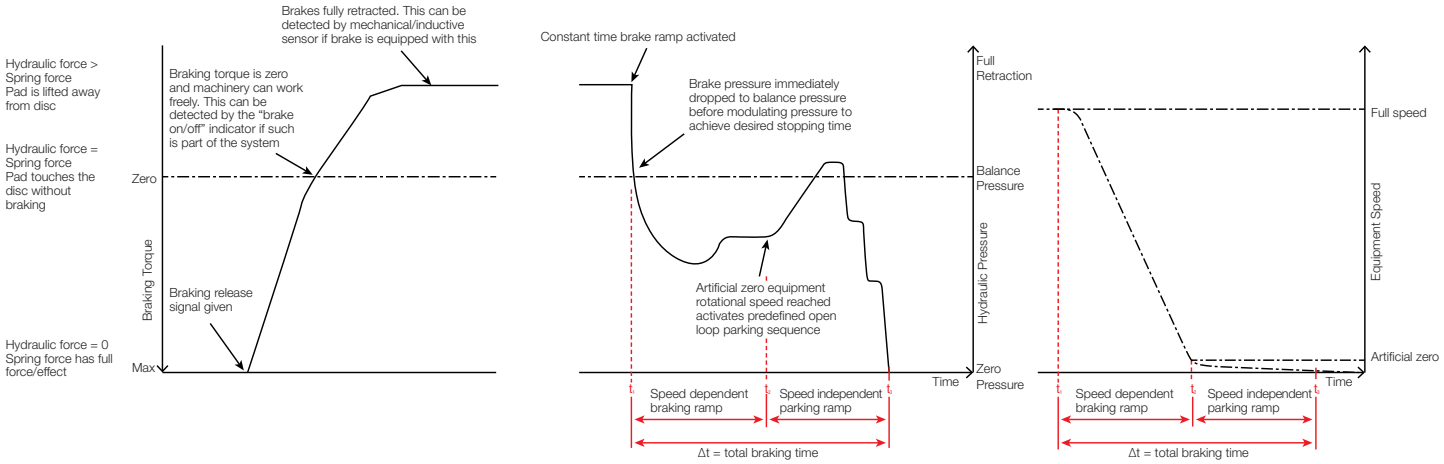
Special Features

- Dual Loop PI Control (Pressure/Speed)
- 3 State Digital Modulation
- Dual speed channel
- Seven different braking profile modes
- 1 open-loop braking profile independent of speed
- 3 speed defined braking profiles for stopping ramps
- 3 Start-up ramps including linear torque release
- 2 Custom Parking sequences
- Overspeed monitoring
- Full diagnostic readout via Fieldbus Protocol
- Rollback detection and prevention
- Scaling of speed signals
- Gearbox monitoring
- Configurable outputs
- Field simulation mode
- Defined component/communication failure behavior
- Capacitor based UPS (Un-interruptible Power Supply)
- Motor starter
- Built-in mechanical 2-Stage Backup
- Ethercat internal communication (between HPU and SOBO® iQ)
- Industrial grade embedded PC
- Capability to control up to 4 separate HPUs
- Ability to control both high and low speed brakes on same single mechanical chain
- Defined torque sharing amongst different HPUs/ brakes
- Fieldbus based communication (optional)
- Fiber-optic long distance communication (optional)
- Touchscreen interface (optional)
- Full redundancy (optional)
- Extreme temperature enclosure (optional)
- Sunshade/Sunroof (optional)
- Remote access (optional)

Svendborg® Brakes
An Altra Industrial Motion Company

SOBO iQ Controlled Braking

BRAKING PERFORMANCE CHART



OPERATION (NOT BRAKING)

Electrical power is connected to the electrical motor and the solenoid valves are energized. The braking valves are closed and the return lines to the tank are shut off. The 2-Stage valve is energized, blocking flow to the built in 2-stage backup. The hydraulic pressure is built up to charge the accumulator and disengage the brakes. When adequate system pressure is built up, the electrical power is disconnected from the motor by means of the motor pressure switch. The braking valves are constantly energized while the brakes are released. If pressure is reduced over time, the motor switch will restart the motor to maintain required system pressure.

APPLYING THE BRAKE WITH CONTROLLED BRAKING TORQUE

When the SOBO® iQ receives a brake command, it will energize/de-energize the SOBO® iQ valves in order to modulate the pressure to follow the predefined braking ramps. A unique pressure feedback feature will ensure quick and precise control over torque output of the braking system and, in turn, ensures a predictable stopping sequence. The braking ramps are set by connecting a field laptop to the SOBO® iQ and running the SOBO® iQ software interface or by accessing the SOBO® iQ software interface via the optional touchscreen. Up to three specific braking ramps can be set up with a fourth open-loop, speed independent ramp to allow for specific braking profiles to be utilized in any situation.

OPERATION IN CASE OF POWER FAILURE

In case of complete power failure, the SOBO® iQ is supplied with a UPS backup power source allowing the SOBO® iQ to operate normally when a brake command is given. In case of a communication failure to the SOBO® iQ, the unit will activate the highest priority braking ramp. In case of a SOBO® failure, the SOBO® iQ will utilize the built in electrical or mechanical 2-stage backup to stop the conveyor.

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