

MINING

# Mining Conveyor Control Program M CCP

Better equipment performance for the entire life cycle



Conveying is critical to all mining operations. The choice of drive solution directly impacts performance, flexibility of operation, total efficiency, reliability and overall life cycle of your conveyor system.

01 Overland conveyor line  
7,6 km, Tianjin Coke, China

**ABB's mining conveyor control program (M CCP) for conveyor applications provides drives load sharing and dynamic soft starting with highest accuracy and lowest mechanical stress.**

#### Value

- Increased production
- Increased equipment life
- High profitability
- Easy to service

The M CCP is a software package developed by ABB for conveyor drives control. It has been designed to run directly on the control board of its medium or low voltage variable-speed drives. The software is specifically configured for conveyor applications, allowing for setting (by parameter) of the essential conveyor drives control functions.

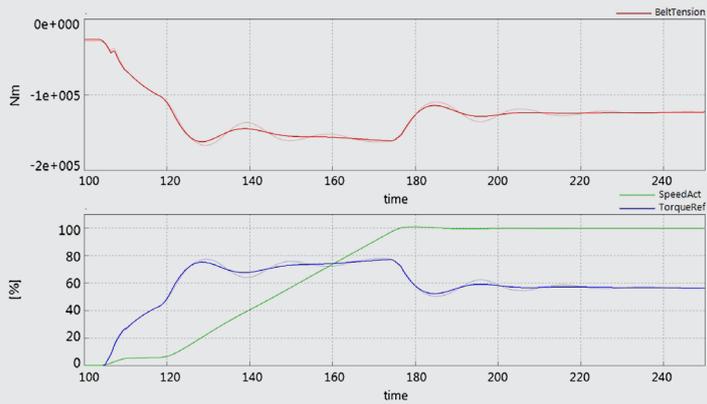
#### Conveyor functions set by parameters

The conveyor start/stop control, acceleration and deceleration profiles, load sharing between motors and pulleys, mechanical brake control, drive monitoring, alarm processing, speed and torque limitations are all set by parameters in the M CCP. The control loop and communication runs precisely at high cycle times.

Traditionally, every conveyor required that these functions to be custom developed for each application in the overriding PLC program. With the use of the M CCP, these functions are no longer required in the PLC, which provides savings in engineering time and overall cost.

M CCP ensures that all connected frequency converters apply the same torque to the conveyor, then defined load sharing between different pulleys can be adjusted. In addition, all necessary limitations, supervision and protection functions are included in M CCP.

Emergency run mode lets the user disconnect a faulty drive quickly. Only electrical separation and selector switch acknowledgement to the control is necessary to re-start the system with a reduced number of motors.



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02 MCCP simulation model: Optimization of control settings.

03 Overland conveyor line at Collahuasi, Chile



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**Pre-engineered solution**

The pre-engineered solution reduces the amount of engineering time required for PLC programming.

**Faster commissioning**

Communication between multiple drives is easily and simply achieved with this 'out of the box' approach.

**Reduced maintenance needs**

Accurate control, considering the dynamic effect between the drives and in the belt provides soft control, reduces the wear of mechanical parts.

**Easy to service**

Conveyor parameters (e.g. start and stop times) can be altered without needing specialized maintenance staff on site.

**Reduced cost**

Low implementation cost, reliable operation, reduced wear of equipment and easy service reduce the total cost of ownership of your conveyor.

**Repeatability**

Every ABB conveyor operates in exactly the same manner within your entire process. Proven in many projects, the software is safe and consistent.

**Simulation support**

With our conveyor simulation model, specifically designed to optimize the control, we are able to solve the most difficult tasks: optimizing the drives dimensioning, tuning the control and accelerating the commissioning.

**Features**

- Standardized solution (Firmware)
- Modular control loop
- Configured by parameter/ no PLC programming
- Soft starting and operation
- Accurate load sharing
- Reduction of torsional oscillations
- Dynamic simulation
- Easy handling
- Conveyor specific control modes are embedded
- Less supervisory controller capacity needed
- Single or Multi-Motor control
- Easy commissioning and servicing by common drive tool
- Motion monitoring and protection

**Benefits**

- Belt slip reduced to a minimum
- Flawless high load starting
- Low mechanical stress
- Low mechanical wear
- Open to every control system, easy implementation into the DCS
- Low engineering effort for programming and control hardware
- Safe and consistent software, proven in many projects

Are you interested in a better equipment performance for the entire life cycle? Contact us!