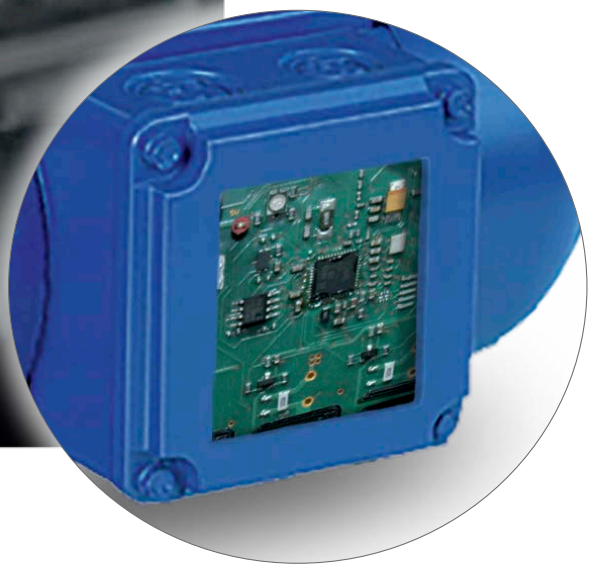
Integrated electronic torque monitoring

Geared motors designed for Industry 4.0



Bauer Gear Motor®
Altra Industrial Motion

TorqueControl4.0

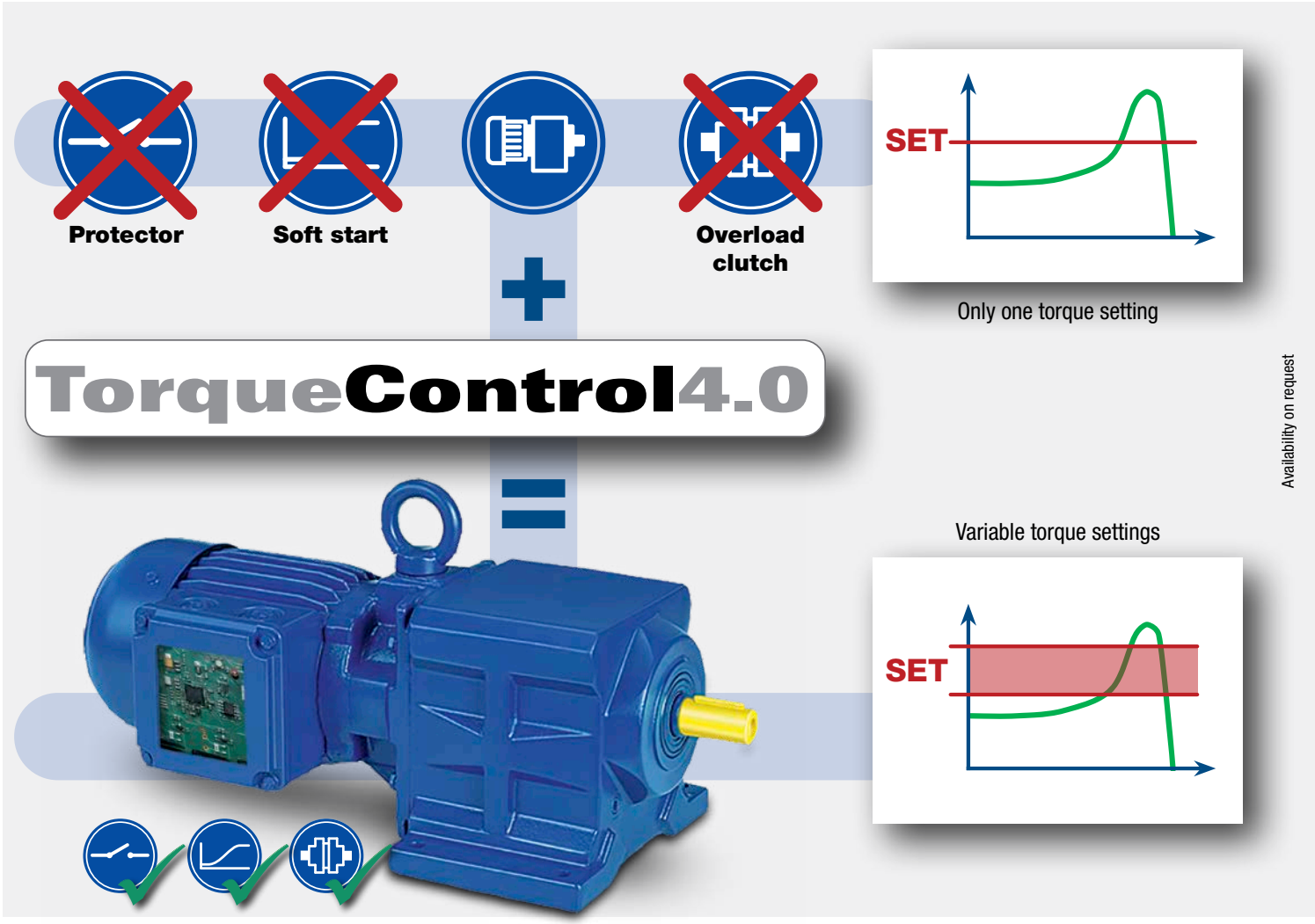
As digitisation advances and with Industry 4.0 on the rise, passive actuators are becoming active components by relaying data that can be used in the machine or system for diagnostics or further processing. This constituted an opportunity for Bauer Gear Motor to expand its geared motor portfolio and respond to new requirements accordingly. Developed under the slogan "Geared Motor Goes Online", **TorqueControl4.0** has been combined with a mains-powered geared motor to create an Industry 4.0 component with a range of useful additional functions. Connecting **TorqueControl4.0** via IO link enables the geared motor to be integrated into the machine control interface without the need for additional components.

Features

- Direct integration of motors into PLC via IO link
- Quick configuration
- Use of motor as an Industry 4.0 component
- Rapid torque measurement
- Rapid torque release in the event of an overload
- Status and process monitoring
- Soft start
- Wear-free switching in the event of frequent switching cycles
- Electronic nameplate

Benefits

- Time saved during commissioning
- Motor as a data mining device
- No additional mechanical overload clutches
- Flexible usage and no maintenance
- Quick restart following overload
- Ability to access load cycle
- Ability to save on infrastructure components, e.g. soft start
- Increase in efficiency under partial load
- No additional interface required
- Rapid, secure access to geared motor data



Availability on request

Rapid, accurate torque measurement

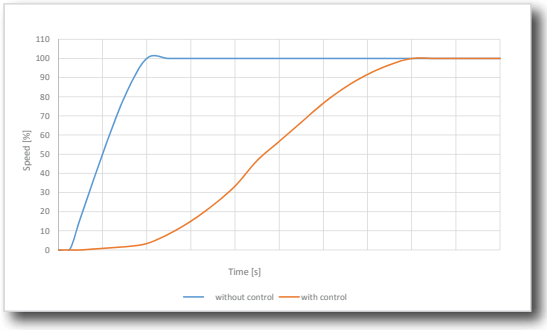
Rapid, accurate current and voltage measurements enable **TorqueControl4.0** to display, report and assess torque progression cyclically. As an example, this can be used with the integrated power semiconductors to quickly shut down the system in the event of overload, or to set axes based on the torque. This makes **TorqueControl4.0** the equivalent of an overload clutch where the parameters can be set electronically. This also makes it possible to make a precise assessment of the motor in the load spectrum.

Areas of application

- Replaces mechanical overload clutches, e.g. in material handling
- Positioning applications dependent on torque
- Data collection for reproducing and evaluating the load spectrum (data mining)

Start/stop ramp smoothing

Smoothing start/stop ramps enables the force of the initial jolt to be limited. At the same time, the system limits the starting current in the same way as a conventional soft starter.

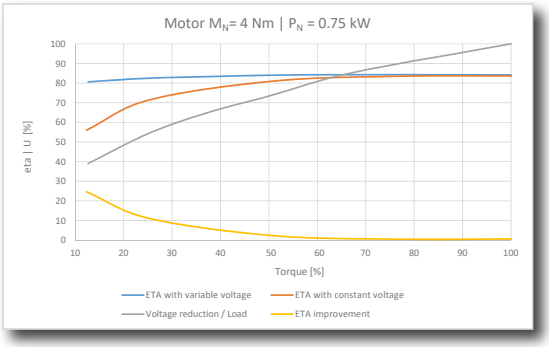


Areas of application

- Material handling
- Intralogistics
- Starting under load
- Applications sensitive to jolts

Adaptive load control via variable voltage adjustment

Continuous load-point recording enables **TorqueControl4.0** to alter the motor's magnetisation by adjusting the voltage. This increases efficiency in the partial-load range. As a result, efficiency can be significantly increased by up to 25% in applications run primarily in the partial-load range.



Areas of application

- Material handling
- Intralogistics

Specifications

- IP65 enclosure
- Power range: up to 2,2 kW
- Voltage range: 400 – 460 V +/- 10 %
- Working temperature: -25°C to +55°C
- 1 input and 1 output - 24 V
- Connections:
  - 1x power connection via LQ Mechatronik-Systeme - W-TEC 15
  - Customer-specific connections optional
  - 1 x M12 IO link, A-coded
  - Optional 1x M12, A-coded, for additional input/output

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