



KRIWAN
Industrie-Elektronik GmbH

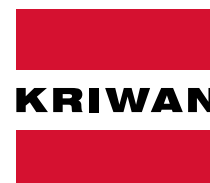
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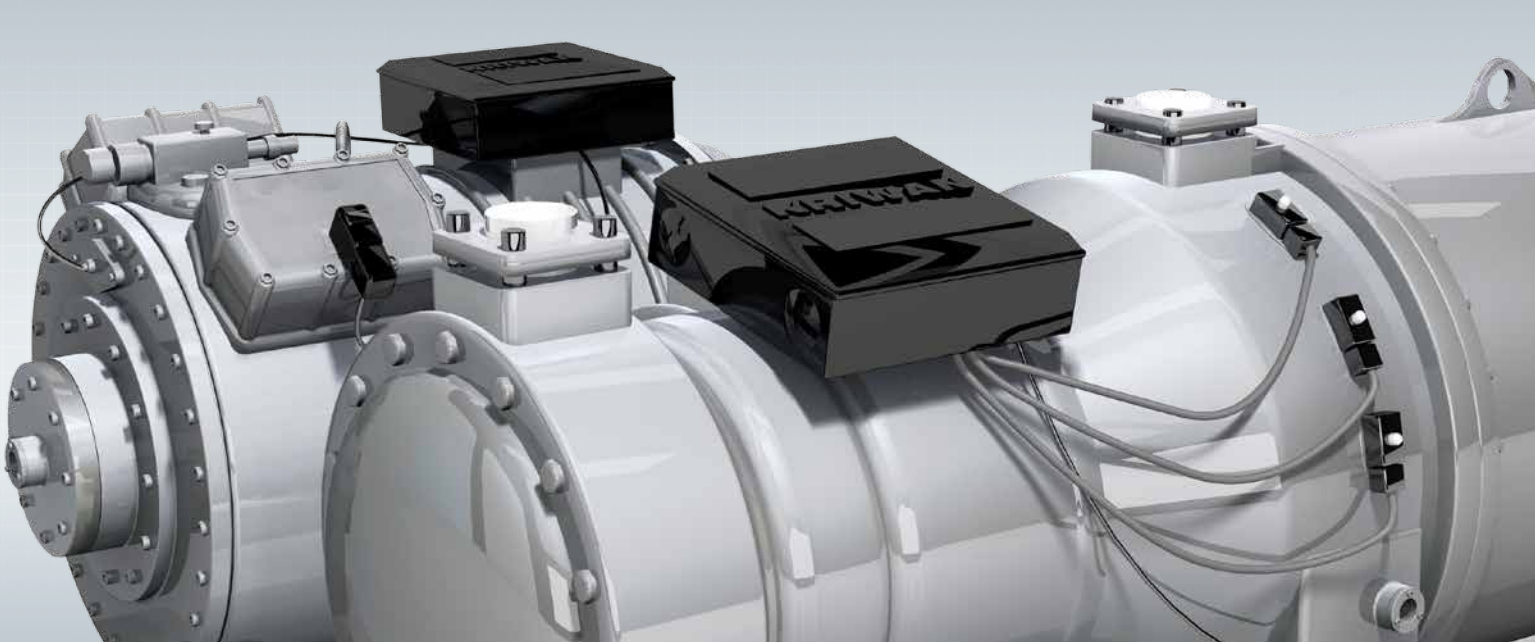
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KRIWAN Capacity Control



**Efficient mechanical capacity control
with integrated protection**





Tailored refrigeration. Efficient mechanical capacity control.

Expertise, experience and outstanding product quality have made KRIWAN a leading supplier in the refrigeration/air conditioning market for almost 45 years.

The power consumption of a refrigeration system does not only depend on the type, quantity and temperature of products or processes that need to be cooled, but also on temperature fluctuation during the day and in the year. The task that capacity control has is to adjust cooling capacity to reflect needs in the most efficient way possible, thus ensuring constant temperature and humidity. An efficient capacity control does not just reduce the operating costs, it also saves energy and protects the environment.

Infinite capacity control with integrated protection

The electronically controlled mechanical capacity control is an easy-to-install and cost-effective solution. KRIWAN has developed a special solution: The INT59[®] C allows rapid, virtually infinite capacity control, while the filter function additionally ensures smooth and consistent power transitions. At the same time, the INT59[®] C acts as an active safeguard and tripping device.

The INT59[®] C control algorithm is optimized to minimize the switching frequency of the control valves, and thus avoid premature wear, despite achieving more precise control.

Thanks to this solution, KRIWAN compressors still achieve a high of efficiency even in partial load operation – and without any problems due to power surges, interference, inadequate cooling, or lack of oil lubrication.

Mechanical capacity control – functional principle



Screw compressor

The compressor process and the delivery volume are adapted to reflect the power requirement by control gate valve.



Reciprocating compressor

The power control supports cylinder bank activation and switch-off. The solenoid valves are open at full load, and closed at partial load. With the valve closed, no refrigerant is taken in, and the piston runs without gas pressure.



Easy commissioning

The control signal type, and its implementation, are set and preconfigured – along with the active protection measures – on the INT59® C as specified by the compressor manufacturer. This means that the end customer can directly commission the device.

Capacity control as an active compressor protection component

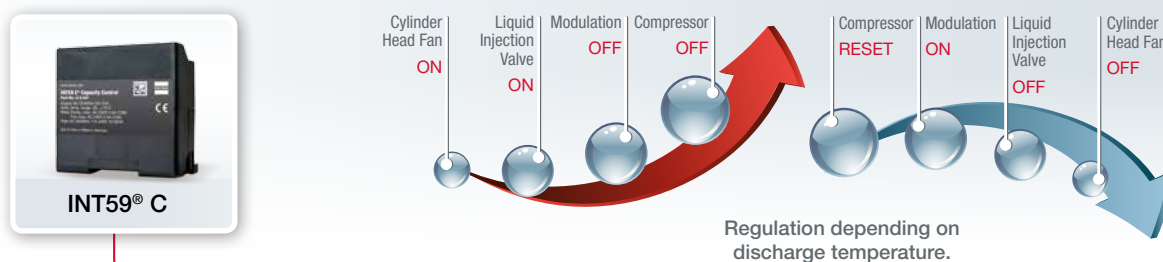
Integrated active compressor protection ensures effective protection of the overall system. Monitoring of other parameters, such as discharge gas, oil and winding temperature, allows a targeted response to be initiated when certain limits are reached.

Switching on a cylinder head fan, liquid injection, or interruption of the modulation, support operations within the characteristic map. This maximizes availability, ensures conservative use of the compressor, and avoids a safety shutdown for as long as possible – this extends the compressor's service life.

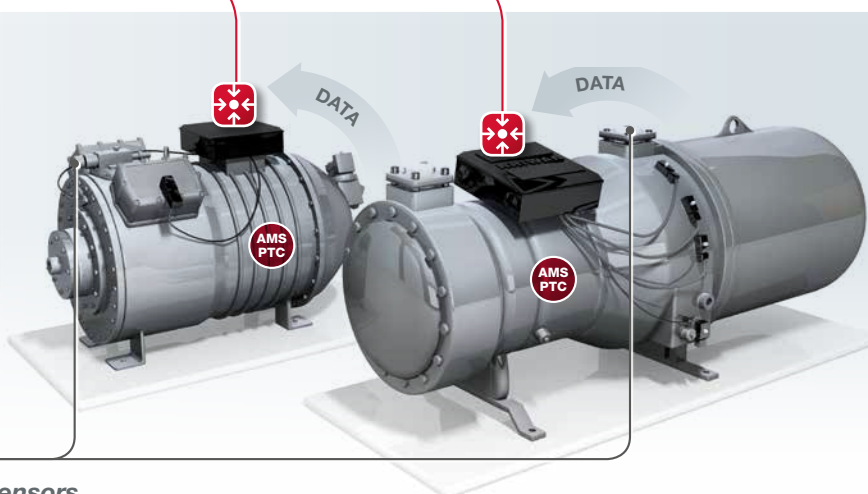
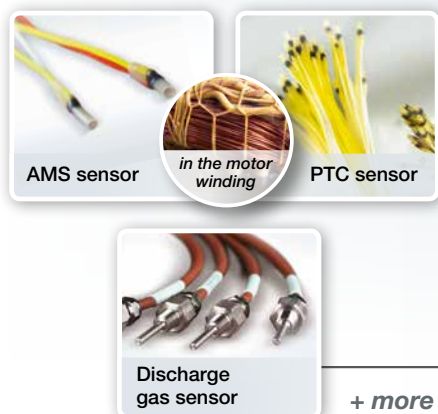
Benefits at a glance

- Constant temperature and humidity
- Longer compressor service life
- Intelligent control algorithms (compressor-specific)
- Low investment costs
- Easy commissioning
- Reduced operating costs
- Integrated active compressor protection

Capacity control and compressor protection



Temperature monitoring



+ more sensors