

# Measurement technology for SIMATIC ET 200SP

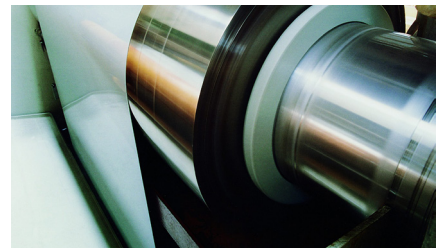
## Compact, high speed and seamlessly integrated

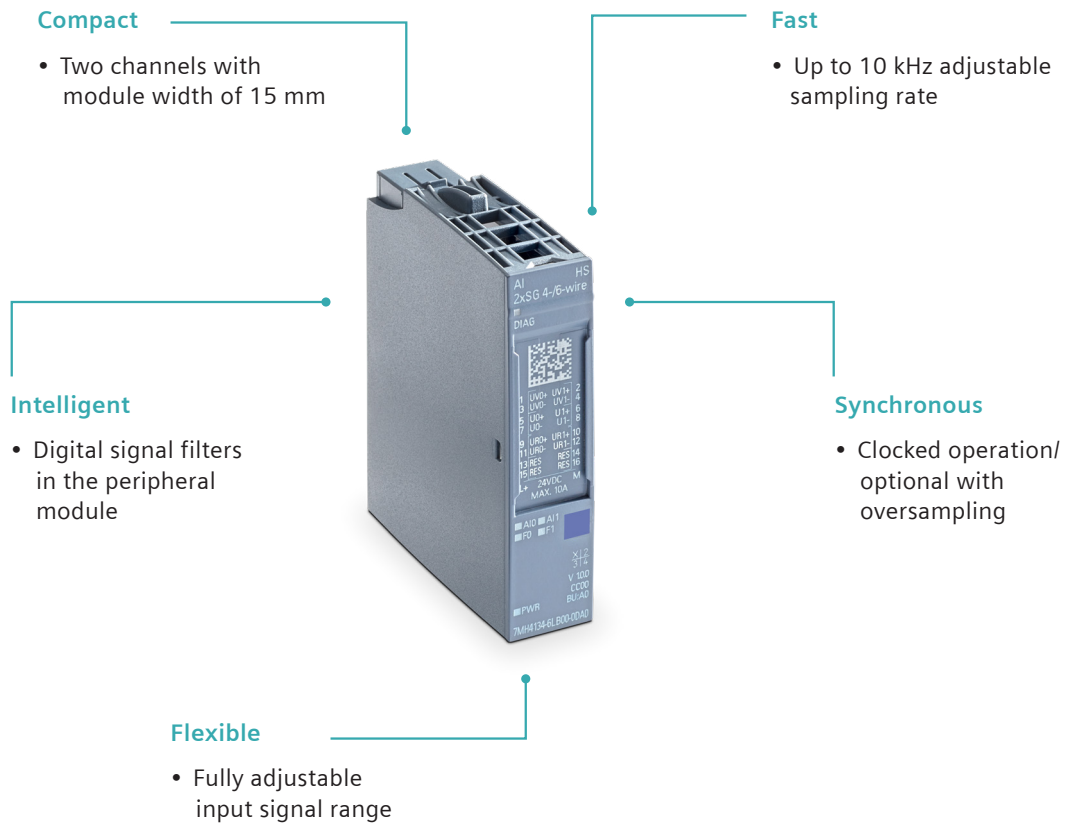
Increasing performance requirements for production and manufacturing processes come with ever higher demands on the automation environment. In measurement technology in particular, having fast and consistently integrated control units is essential. The analog input module AI 2xSG 4-/6-wire HS meets exactly these requirements for fast measurements using sensors based on strain gauge full bridges. Typical applications are force and torque measurements, found in the manufacturing and packaging industry, as well as in plant and mechanical engineering.

The module has a width of only 15 mm for two channels. This guarantees an optimal channel density in the cabinet. With a sampling rate up to 10 kHz, force and torque sensors can be analyzed quickly and the measurement values are seamlessly transferred to the controller. By supporting the isochronous operation of the ET 200SP system, the connected sensors can be easily analyzed in equidistant clocks through Profinet in the SIMATIC CPU. Moreover, the oversampling function in the isochronous mode offers the possibility of capturing several measurement values within a clock, and transferring those in a single package to the CPU. Therefore the module is perfectly suited for operation in motion control applications and machine tools. Numerous digital and

freely adjustable filters enable comfortable signal preprocessing, directly in the peripheral module. A large number of sensors can be connected using the freely adjustable input signal range. The full bridge is fed by the module itself – no additional hardware is needed. Four-wire as well as six-wire sensors are directly connected to the module's BaseUnit. This ensures a continuous and clear wiring in the cabinet. Thanks to the standard factory calibration, the module can be easily replaced.

In interaction with the high performance SIMATIC controllers, all requirements for fast and reliable measurement can therefore be fulfilled using the SIMATIC standard tools.





	AI 2xSG 4-/6-wire HS
<b>Applications</b>	Force and torque measurements with sensors based on full bridge strain gauges
<b>Number of channels</b>	Two per module
<b>Sampling rate</b>	Up to 10kHz adjustable
<b>Measured value resolution</b>	28 bits (cyclic/isochronous) / 16 bits (oversampling)
<b>Measuring bridge supply</b>	5 V DC module-internal
<b>Digital signal filter (seperated for each channel)</b>	<ul style="list-style-type: none"> <li>• Low-pass filter with adjustable threshold frequency and reference number</li> <li>• Average value filter with adjustable filtering time</li> <li>• Notch filter with adjustable notch frequency and quality</li> </ul>
<b>Process and diagnostic alarm</b>	Yes/yes
<b>BaseUnit Type</b>	A0
<b>Order number</b>	7MH4134-6LB00-0DA0

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