

## Technical specifications

### Technical specifications of F-DI 8x24VDC HF

The following table shows the technical specifications as of 10/2021. You can find a data sheet including updated technical specifications on the Internet (<https://support.industry.siemens.com/cs/ww/en/pv/6ES7136-6BA01-0CA0/td?dl=en>).

<b>Article number</b>	<b>6ES7136-6BA01-0CA0</b>
<b>General information</b>	
Product type designation	F-DI 8x24VDC HF
Firmware version	Yes
• FW update possible	
usable BaseUnits	BU type A0
Color code for module-specific color identification plate	CC01
<b>Product function</b>	
• I&M data	Yes; I&M0 to I&M3
<b>Engineering with</b>	
• STEP 7 TIA Portal configurable/integrated from version	up to and incl. V17 as 6ES7136-6BA00-0CA0
• PROFINET from GSD version/GSD revision	GSDML V2.35
<b>CiR - Configuration in RUN</b>	
Reparameterization possible in RUN	No
<b>Supply voltage</b>	
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
Reverse polarity protection	Yes
<b>Input current</b>	
Current consumption, max.	40 mA; without load
<b>Encoder supply</b>	
Number of outputs	8
<b>24 V encoder supply</b>	
• 24 V	Yes; min. L+ (-1.5 V)
• Short-circuit protection	Yes; Electronic (response threshold 0.7 A to 1.8 A)
• Output current per channel, max.	300 mA
• Output current per module, max.	800 mA; Total current of all encoders

<b>Article number</b>	<b>6ES7136-6BA01-0CA0</b>
<b>Power loss</b>	
Power loss, typ.	2 W
<b>Address area</b>	
<b>Address space per module</b>	
• Inputs	7 byte; S7-300/400F CPU, 6 byte
• Outputs	5 byte; S7-300/400F CPU, 4 byte
<b>Hardware configuration</b>	
Automatic encoding	Yes
• Electronic coding element type F	Yes
<b>Digital inputs</b>	
Number of digital inputs	8
Source/sink input	Yes; P-reading
Input characteristic curve in accordance with IEC 61131, type 1	Yes
<b>Input voltage</b>	
• Rated value (DC)	24 V
• for signal "0"	-30 to +5 V
• for signal "1"	+15 to +30 V
<b>Input current</b>	
• for signal "1", typ.	3.7 mA
<b>Input delay (for rated value of input voltage) for standard inputs</b>	
– parameterizable	Yes
– at "0" to "1", min.	0.4 ms
– at "0" to "1", max.	20 ms
– at "1" to "0", min.	0.4 ms
– at "1" to "0", max.	20 ms
<b>for technological functions</b>	
– parameterizable	No
<b>Cable length</b>	
• shielded, max.	1 000 m
• unshielded, max.	500 m
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	Yes
<b>Alarms</b>	
• Diagnostic alarm	Yes
• Hardware interrupt	No
<b>Diagnostics indication LED</b>	
• RUN LED	Yes; green LED
• ERROR LED	Yes; red LED

<b>Article number</b>	<b>6ES7136-6BA01-0CA0</b>
<ul style="list-style-type: none"> <li>Monitoring of the supply voltage (PWR-LED)</li> <li>Channel status display</li> <li>for channel diagnostics</li> <li>for module diagnostics</li> </ul>	Yes; green PWR LED Yes; green LED Yes; red LED Yes; green/red DIAG LED
<b>Potential separation</b>	
<b>Potential separation channels</b>	
<ul style="list-style-type: none"> <li>between the channels</li> <li>between the channels and backplane bus</li> <li>between the channels and the power supply of the electronics</li> </ul>	No Yes No
<b>Isolation</b>	
Isolation tested with	707 V DC (type test)
<b>Standards, approvals, certificates</b>	
Suitable for safety functions	Yes
<b>Highest safety class achievable in safety mode</b>	
<ul style="list-style-type: none"> <li>Performance level according to ISO 13849-1</li> <li>Category according to ISO 13849-1</li> <li>SIL acc. to IEC 61508</li> </ul>	PL <sub>e</sub> Cat. 4 SIL 3
<b>Probability of failure (for service life of 20 years and repair time of 100 hours)</b>	
<ul style="list-style-type: none"> <li>Low demand mode: PFD<sub>avg</sub> in accordance with SIL3</li> <li>High demand/continuous mode: PFH in accordance with SIL3</li> </ul>	< 2.00E-05 < 1.00E-09 1/h
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
<ul style="list-style-type: none"> <li>horizontal installation, min.</li> <li>horizontal installation, max.</li> <li>vertical installation, min.</li> <li>vertical installation, max.</li> </ul>	0 °C 60 °C 0 °C 50 °C
<b>Altitude during operation relating to sea level</b>	
<ul style="list-style-type: none"> <li>Installation altitude above sea level, max.</li> </ul>	4 000 m; restrictions for installation altitudes > 2 000 m, see ET 200SP system manual
<b>Dimensions</b>	
Width	15 mm
Height	73 mm
Depth	58 mm
<b>Weights</b>	
Weight, approx.	29 g