

# SIEMENS

## Product data sheet

**6ES7131-6BF00-0BA0**


SIMATIC ET 200SP, DIGITAL INPUT MODULE,  
DI 8X 4VDC STANDARD,  
FITS TO BU-TYPE A0, COLOR CODE CC01,  
MODULE DIAGNOSIS

### CiR - Configuration in RUN

Reparameterization possible in RUN	Yes
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### Supply voltage

24 V DC	Yes
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
External protection for supply cables (recommendation)	24 V DC/10 A miniature circuit breaker with type B or C tripping characteristic

### Input current

Current consumption, max.	50 mA
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### Output voltage

#### Power supply to the transmitters

present	Yes
Rated value (DC)	24 V
short-circuit proof	Yes
Supply current, max.	700 mA

Power losses	
Power loss, typ.	1 W
Digital inputs	
Number/binary inputs	8
Input characteristic curve acc. to IEC 61131, Type 1	Yes
Input characteristic curve acc. to IEC 61131, Type 3	Yes
Number of simultaneously controllable inputs	
horizontal installation	
up to 60 °C, max.	8
vertical installation	
up to 50 °C, max.	8
Input voltage	
Type of input voltage	DC
Rated value, DC	24 V
for signal "0"	-30 to +5 V
for signal "1"	11 to 30 V
Input current	
for signal "0", max. (permissible quiescent current)	1.5 mA
Input delay (for rated value of input voltage)	
for standard inputs	
Parameterizable	Yes
Cable length	
Cable length, shielded, max.	1000 m
Cable length unshielded, max.	200 m
Encoder	
Connectable encoders	
2-wire sensor	Yes
Permissible quiescent current (2-wire sensor), max.	1.5 mA
Interrupts/diagnostics/status information	
Diagnostic messages	
Diagnostic functions	Yes ; Module-wise
Monitoring the supply voltage	Yes
Wire break	Yes

Short circuit	Yes
Group error	Yes
Diagnostics indication LED	
For voltage monitoring	Yes
Status indicator digital input (green)	Yes
Galvanic isolation	
Galvanic isolation digital inputs	
between the channels	No
between the channels and the backplane bus	Yes
Isolation	
Isolation checked with	707 V DC
EMC	
Interference immunity against discharge of static electricity	
Interference immunity against discharge of static electricity acc. to IEC 61000-4-2	Yes
Degree of sharpness	3
Test voltage at air discharge	8 kV
Test voltage at contact discharge	6 kV
Interference immunity to cable-borne interference	
on the supply lines acc. to IEC 61000-4-4	Yes
Interference immunity on signal lines acc. to IEC 61000-4-4	Yes
Interference immunity on supply cables	
Degree of sharpness	3
Test voltage	2 kV
Interference immunity on signal cables >30m	
Degree of sharpness	3
Test voltage	2 kV
Interference immunity on signal cables < 30m	
Degree of sharpness	3
Test voltage	1 kV
Surge immunity	
on the supply lines acc. to IEC 61000-4-5	Yes ; With upstream protective element
Asymmetric interference	

Degree of sharpness	3
Test voltage on supply cables	2 kV
Test voltage on signal cables >30m	2 kV
Immunity against high-frequency electromagnetic fields	
Interference immunity against high-frequency radiation acc. to IEC 61000-4-3	Yes
Degree of sharpness	3
Frequency range of the HF irradiation	80 to 1000 MHz and 1.4 to 2 GHz with 10 Vm; 2.0 GHz to 2.7 GHz with 1 Vm
Electrical field strength at 80% amplitude modulation with 1kHz in the range of 80 MHz to 1000 MHz	10 V/m
Immunity against conducted interference induced by high-frequency fields	
Interference immunity against high frequency current feed acc. to IEC 61000-4-6	Yes
Interference immunity against high-frequency radiation acc. to IEC 61000-4-6	Yes
Degree of sharpness	3
Field strength at 80% amplitude modulation with 1kHz in the range 9 kHz to 80 MHz	10 V
Emission of radio interference acc. to EN 55 011	
Emission of radio interferences acc. to EN 55 011 (limit class A)	Yes
Limit class A, for use in industrial areas	Yes
Emission of radio interference acc. to EN 55 022	
Interference emission acc. to EN 55022, class A	Yes
Emission of conducted and non-conducted interference	
Interference emission from electromagnetic fields	
Limit value in the frequency range 29 MHz to 230 MHz	40 dB (µV/m)
Limit value in the frequency range 230 MHz to 1000 MHz	47 dB (µV/m)
Standards, approvals, certificates	
CE mark	Yes
CSA approval	Yes ; Included in cULus
C-TICK	Yes

FM approval	Yes
Marine approval	Yes
Climatic and mechanical conditions for storage and transport	
Conditions of use in storage and transport	
Compliance with requirements for storage and transport conditions according to IEC 61131-2	Yes
Climatic conditions for storage and transport	
Free fall	
Drop height, max. (in packaging)	1 m
Temperature	
Permissible temperature range	-40 °C to +70 °C
Min.	-40 °C
max.	70 °C
Air pressure acc. to IEC 60068-2-13	
Min.	660 hPa
max.	1080 hPa
Min.	-1000 m
max.	3500 m
Mechanical conditions for storage and transport	
Constant amplitude at 5 Hz to 9 Hz, max.	3.5 mm
Constant acceleration at 9 Hz to 150 Hz, max	9.8 m/s <sup>2</sup>
Shock (acc. to IEC 60068-2-29)	
Acceleration at a duration of 6 ms per shock (tested with 1000 shocks)	250 m/s <sup>2</sup>
Mechanical and climatic conditions during operation	
Climatic conditions in operation	
Temperature	
Min.	0 °C
max.	60 °C
Permissible temperature change	10 °C/h
Air pressure acc. to IEC 60068-2-13	
Min.	795 hPa
max.	1080 hPa
Min.	-1000 m

max.	2000 m
Relative humidity	
Relative humidity at 25 °C, max. (without condensation)	95 %
Pollutant concentrations	
SO <sub>2</sub> at RH < 60% without condensation	0.00005 % ; SO <sub>2</sub> : < 0.5 ppm; RH < 60% condensation-free
H <sub>2</sub> S at RH < 60% without condensation	0.00001 % ; H <sub>2</sub> S: < 0.1 ppm; RH < 60% condensation-free
Mechanical conditions in operation	
Vibration (acc. to IEC 60068-2-6)	
Constant amplitude at 10 Hz to 58 Hz, max.	0.35 mm
Dimensions	
Width	15 mm
Weight	
Weight, approx.	28 g
Status	May 26, 2012