

SIPLUS ET 200SP DI 8x NAMUR HF TX RAIL -40 ... +70 °C TX with 85 °C for 10 minutes with conformal coating Based on: 6ES7131-6TF00-0CA0 . DI 8x NAMUR High Feature, suitable for BU type A0, Color code CC01, channel diagnostics



General information	
Product type designation	DI 8xNAMUR HF
Firmware version	
<ul style="list-style-type: none"> <li>FW update possible</li> </ul>	Yes
usable BaseUnits	BU type A0
Color code for module-specific color identification plate	CC01
Product function	
<ul style="list-style-type: none"> <li>I&amp;M data</li> </ul>	Yes; I&M0 to I&M3
Operating mode	
<ul style="list-style-type: none"> <li>DI</li> <li>Counter</li> <li>Oversampling</li> <li>MSI</li> </ul>	Yes No No No
Supply voltage	
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>Encoder supply</b>	
Number of outputs	8
Short-circuit protection	Yes
<b>24 V encoder supply</b>	
• 24 V	No
• Short-circuit protection	No
<b>Power loss</b>	
Power loss, typ.	1.5 W
<b>Address area</b>	
Address space per module	
• Address space per module, max.	1 byte; + 1 byte for QI information
<b>Hardware configuration</b>	
Selection of BaseUnit for connection variants	
• 1-wire connection	BU type A0
• 2-wire connection	BU type A0
• 3-wire connection	BU type A0 + external terminals
• 4-wire connection	BU type A0 + external terminals
<b>Digital inputs</b>	
Number of digital inputs	8; > +60 °C number of simultaneously controllable inputs max. 4 (no adjacent points)
Digital inputs, parameterizable	Yes
Pulse extension	Yes; 0.5 s, 1 s, 2 s
Edge evaluation	Yes; rising edge, falling edge, edge change
Signal change flutter	Yes; 2 to 32 signal changes
Flutter observation window	Yes; 0.5 s, 1 s to 100 s in 1-s steps
<b>Input voltage</b>	
• Type of input voltage	DC
• Rated value (DC)	8.2 V
<b>Input current</b>	
for 10 k switched contact	
— for signal "0"	0.35 to 1.2 mA
— for signal "1"	2.1 to 7 mA
for unswitched contact	
— for signal "0", max. (permissible quiescent current)	0.5 mA
— for signal "1"	typ. 8 mA
for NAMUR encoders	
— for signal "0"	0.35 to 1.2 mA
— for signal "1"	2.1 to 7 mA

<b>Input delay (for rated value of input voltage)</b>	
<ul style="list-style-type: none"> <li>tolerated changeover time for changeover contacts</li> </ul>	300 ms
<b>for standard inputs</b>	
— parameterizable	No
<b>for NAMUR inputs</b>	
— at "0" to "1", max.	12 ms
— at "1" to "0", max.	12 ms
<b>Cable length</b>	
<ul style="list-style-type: none"> <li>shielded, max.</li> </ul>	200 m
<b>Encoder</b>	
<b>Connectable encoders</b>	
<ul style="list-style-type: none"> <li>NAMUR encoder/changeover contact according to EN 60947</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Single contact / changeover contact unconnected</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Single contact / changeover contact connected with 10 kΩ</li> </ul>	Yes
<b>Isochronous mode</b>	
Isochronous operation (application synchronized up to terminal)	No
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	Yes
<b>Alarms</b>	
<ul style="list-style-type: none"> <li>Diagnostic alarm</li> </ul>	Yes; channel by channel
<ul style="list-style-type: none"> <li>Hardware interrupt</li> </ul>	Yes; Parameterizable, channels 0 to 7
<b>Diagnostic messages</b>	
<ul style="list-style-type: none"> <li>Diagnostic information readable</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Monitoring the supply voltage</li> </ul>	Yes
<ul style="list-style-type: none"> <li>— parameterizable</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Monitoring of encoder power supply</li> </ul>	Yes; channel by channel
<ul style="list-style-type: none"> <li>Wire-break</li> </ul>	Yes; channel by channel
<ul style="list-style-type: none"> <li>Short-circuit</li> </ul>	Yes; channel by channel
<ul style="list-style-type: none"> <li>Group error</li> </ul>	Yes
<b>Diagnostics indication LED</b>	
<ul style="list-style-type: none"> <li>Monitoring of the supply voltage (PWR-LED)</li> </ul>	Yes; green PWR LED
<ul style="list-style-type: none"> <li>Channel status display</li> </ul>	Yes; Green LED
<ul style="list-style-type: none"> <li>for channel diagnostics</li> </ul>	Yes; Red LED
<ul style="list-style-type: none"> <li>for module diagnostics</li> </ul>	Yes; green/red DIAG LED
<b>Potential separation</b>	
Potential separation channels	

- between the channels
- between the channels and backplane bus
- between the channels and the power supply of the electronics

No  
Yes  
Yes

## Isolation

Isolation tested with

707 V DC (type test) and according to EN 50155 (routine test)

## Standards, approvals, certificates

### Railway application

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• EN 50121-3-2</li> </ul>                       | Yes; EMC for rail vehicles   |
| <ul style="list-style-type: none"> <li>• EN 50121-4</li> </ul>                         | Yes; EMC for signal and telecommunications systems   |
| <ul style="list-style-type: none"> <li>• EN 50124-1</li> </ul>                         | Yes; Railway applications - overvoltage category OV2; pollution degree PD2; rated surge voltage UNi = 0.5 kV; UNm = 24 V DC                                  |
| <ul style="list-style-type: none"> <li>• EN 50125-1</li> </ul>                         | Yes; Rail vehicles - see ambient conditions  |
| <ul style="list-style-type: none"> <li>• EN 50125-2</li> </ul>                         | Yes; Stationary electrical equipment - see ambient conditions  |
| <ul style="list-style-type: none"> <li>• EN 50125-3</li> </ul>                         | Yes; Signal and telecommunications systems - see ambient conditions; vibrations and shocks: Application point outside of tracks (1 m to 3 m away from track) |
| <ul style="list-style-type: none"> <li>• EN 50155</li> </ul>                           | Yes; Rail vehicles - temperature class Tx, horizontal mounting position, salt spray Class ST2  |
| <ul style="list-style-type: none"> <li>• EN 61373</li> </ul>                           | Yes; Rail vehicles - vibrations and shocks: Category 1 Class A/B   |
| <ul style="list-style-type: none"> <li>• Fire protection acc. to EN 45545-2</li> </ul> | Yes; Rail vehicles - verification on request   |

## Ambient conditions

### Ambient temperature during operation

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• horizontal installation, min.</li> </ul> | -40 °C; = Tmin   |
| <ul style="list-style-type: none"> <li>• horizontal installation, max.</li> </ul> | 70 °C; = Tmax; +85 °C for 10 min (Tx acc. to EN 50155) |

### Altitude during operation relating to sea level

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• Installation altitude above sea level, max.</li> </ul>          | 2 000 m  |
| <ul style="list-style-type: none"> <li>• Ambient air temperature-barometric pressure-altitude</li> </ul> | Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) |

### Relative humidity

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• With condensation, tested in accordance with IEC 60068-2-38, max.</li> </ul> | 100 %; RH incl. condensation/frost (no commissioning under condensation conditions) |
|---|---|

## Resistance

### Coolants and lubricants

- |   |     |
|---|-----|
| <ul style="list-style-type: none"> <li>— Resistant to commercially available coolants and lubricants</li> </ul> | Yes |
|---|-----|

### Use in stationary industrial systems

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>— to biologically active substances according to EN 60721-3-3</li> </ul> | Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request |
| <ul style="list-style-type: none"> <li>— to chemically active substances according to EN 60721-3-3</li> </ul>   | Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *           |
| <ul style="list-style-type: none"> <li>— to mechanically active substances according to EN 60721-3-3</li> </ul> | Yes; Class 3S4 incl. sand, dust, *   |

#### Use on land craft, rail vehicles and special-purpose vehicles

— to biologically active substances according to EN 60721-3-5	Yes; Class 5B2 mold, fungus and dry rot spores (with the exception of fauna); Class 5B3 on request
— to chemically active substances according to EN 60721-3-5	Yes; Class 5C3 (RH < 75 %) incl. salt spray acc. to EN 50155 (ST2); *
— to mechanically active substances according to EN 60721-3-5	Yes; Class 5S3 incl. sand, dust; *

#### from supply voltage 1L+

— Note regarding classification of environmental conditions acc. to EN 60721	* The supplied plug covers must remain in place over the unused interfaces during operation!
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#### Dimensions

Width	15 mm
Height	73 mm
Depth	58 mm

#### Weights

Weight, approx.	32 g
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#### Other

Note:	For use in railway applications, also observe the product information "SIPLUS extreme RAIL" A5E37661960A Online Support article 109736776
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**last modified:** 05/16/2018