## SIEMENS

## Data sheet

## 6AG1131-6BH01-7BA0



SIPLUS ET 200SP, digital input module, DI 16X DC 24V standard, -40...+70°C with conformal coating based on 6ES7131-6BH01-0BA0 . type 3 (IEC 61131), sink input, (PNP, P-reading), Packing unit: 1 Piece, passend für BU-Typ A0, Farbcode CC00, Modul-Diagnose input delay time 0,05..20ms, diagnostics wire break, diagnostics supply voltage

Product type designation     DI 16x24VDC ST       Firmware version     No       usable BaseUnits     BU type A0       Color code for module-specific color identification plate     CC00       Product function     CC00       • I&M data     Yes; I&M0 to I&M3       • Isochronous mode     No       • Operating mode     Vers; I&M0 to I&M3       • Counter     No       • Our screampling     No       • Our screampling     No       • MSI     No       Support ty protection     Yes       Rated value (DC)     24 V       permissible range, lower limit (DC)     28.8 v       Reverse polarity protection     Yes       Input current     Current       Current consumption, max.     90 mA       Encoder supply     • 24 v       • 24 v     No       Power loss     1.7 W       Address space per module     2 byte; + 2 bytes for QI information       Hardware configuration     Yes       Automatic encoding     Yes       • Inputs     2 byte; + 2 bytes for QI information       Hardware configuration     Yes       • Automatic encoding     Yes       • Number of configurable submodules, max.     4       Submodules     No       • Number of configurab	General information	
• FW update possible         No           usable BaseUnits         BU type A0           Color code for module-specific color identification plate         CC00           Product function         CC00           • I&M data         Yes; I&M0 to I&M3           • Isochronous mode         No           Operating mode         -           • DI         Yes           • Counter         No           • Oversampling         No           • Oversampling         No           • MSI         No           Supply voltage         -           Rated value (DC)         24 V           permissible range, upper limit (DC)         28.8 V           Reverse polarity protection         Yes           Input current         -           Current consumption, max.         90 mA           Encoder supply         -           • 24 V         No           Power loss         -           Power loss         -           Power loss         -           Power loss         -           Power loss sace per module         -           • Inputs         2 byte; + 2 bytes for Ql information           Hardware configuration         Yes <td>Product type designation</td> <td>DI 16x24VDC ST</td>	Product type designation	DI 16x24VDC ST
usable BaseUnits         BU type A0           Color code for module-specific color identification plate         CC00           Product function         CC00           • I&M data         Yes; I&M0 to I&M3           • Isochronous mode         No           Operating mode         No           • DI         Yes;           • Counter         No           • Oversampling         No           • Oversampling         No           • MSI         No           Supply voltage         Rated value (DC)           permissible range, lower limit (DC)         24 V           permissible range, lower limit (DC)         28.8 V           Reverse polarity protection         Yes           Input current         Current consumption, max.           24 V encoder supply         •           • 24 V         No           Power loss, typ.         1.7 W           Address area         Address area           Address area         Address area           Address apace per module         •           • inputs         2 byte; + 2 bytes for Ql information           Hardware configuration         Yes           Submodules         Yes           • Number of configurable submodules, m	Firmware version	
Color code for module-specific color identification plate       CC00         Product function <ul> <li>IsAM data</li> <li>Isochronous mode</li> <li>No</li> <li>Operating mode</li> <li>Outer</li> <li>No</li> <li>Counter</li> <li>No</li> <li>Oversampling</li> <li>No</li> <li>Supply voltage</li> <li>Rated value (DC)</li> <li>24 V</li> <li>permissible range, lower limit (DC)</li> <li>28.8 V</li> <li>Reverse polarity protection</li> <li>Yes</li> <li>Input current</li> <li>Current consumption, max.</li> <li>90 mA</li> <li>Encoder supply</li> <li>e24 V</li> <li>No</li> <li>Power loss, typ.</li> <li>1.7 W</li> <li>Address area</li> <li>Address area</li> <li>Address area</li> <li>Address area</li> <li>Address area</li> <li>Address area</li> <li>Material (Part Configuration</li> <li>Yes</li> <li>Submodules</li> <li>No</li> <li>Submodules</li> <li>No</li> <li>Pres</li> <li>Pres</li> <li>Submodules, max.</li> <li>Submodules, max.</li> <li>Submodules, max.</li> <li>Submodules, max.</li> <li>Submodules, max.</li> <li>Submodules</li> <li>Nomantic encoding</li> <li>Submodules, max.</li> <li>Submodules</li> <li>No Her Advection variants</li> <li>Submodules</li> <li>Nomante non furgerable submodules</li></ul>	FW update possible	No
Product function <ul> <li>I&amp;M data</li> <li>Ves; I&amp;M0 to I&amp;M3</li> <li>Isochronous mode</li> <li>No</li> </ul> <li>Operating mode         <ul> <li>DI</li> <li>Yes</li> <li>Counter</li> <li>No</li> </ul> </li> <li>Oversampling</li> <li>No</li> <li>Supply voltage</li> <li>Rated value (DC)</li> <li>24 V</li> <li>permissible range, lower limit (DC)</li> <li>28.8 V</li> <li>Reverse polarity protection</li> <li>Yes</li> <li>Input current</li> <li>Current consumption, max.</li> <li>90 mA</li> <li>Encoder supply</li> <li>24 V encoder supply</li> <li>24 V</li> <li>No</li> <li>Power loss, typ.</li> <li>Address space per module</li> <li>Inputs</li> <li>Address space per module</li> <li>Inputs</li> <li>2 byte; + 2 bytes for QI information</li> <li>Hardware configuration</li> <li>Automatic encoding</li> <li>Yes</li> <li>Submodules</li> <li>Number of configurable submodules, max.</li> <li>Selection of BaseUnit for connection variants</li> <li>I-wire connection</li> <li>BU type A0</li>	usable BaseUnits	BU type A0
• I&M data       Yes; I&M0 to I&M3         • Isochronous mode       No         Operating mode       Yes         • DI       Yes         • Counter       No         • Oversampling       No         • MSI       No         Supply voltage       Rated value (DC)         Participage       19.2 V         permissible range, lower limit (DC)       28.8 V         Reverse polarity protection       Yes         Input current       Current consumption, max.         Current consumption, max.       90 mA         Encoder supply       24 V         • 24 V       No         Power loss       Power loss, typ.         Address pace per module       0         • Inputs       2 byte; + 2 bytes for Ql information         Hardware configuration       Yes         Automatic encoding       Yes         Submodules       Yes         • Mechanical coding element       Yes         Submodules       4         Selection of BaseUnit for connection variants       4	Color code for module-specific color identification plate	CC00
• Isochronous mode     No       Operating mode     Yes       • DI     Yes       • Counter     No       • Oversampling     No       • MSI     No       Supply voltage     Rated value (DC)       Partissible range, lower limit (DC)     19.2 V       permissible range, upper limit (DC)     28.8 V       Reverse polarity protection     Yes       Input current     Current consumption, max.       Current consumption, max.     90 mA       Encoder supply     -       • 24 V     No       Power loss, typ.     1.7 W       Address pace per module     2 byte; + 2 bytes for QI information       Hardware configuration     Yes       Automatic encoding     Yes       • Mechanical coding element     Yes       • Mechanical coding element     Yes       • Number of configurable submodules, max.     4       Selection of BaseUnit for connection variants     4	Product function	
Operating mode       Image: Supply context and the supply of the supply context and the	I&M data	Yes; I&M0 to I&M3
• DI     Yes       • Counter     No       • Oversampling     No       • MSI     No       Supply voltage     Rated value (DC)       Parmissible range, lower limit (DC)     19.2 V       permissible range, upper limit (DC)     28.8 V       Reverse polarity protection     Yes       Input current     V       Current consumption, max.     90 mA       Encoder supply     24 V       • 24 V     No       Power loss, typ.     1.7 W       Address area     Address area       Address space per module     1.7 W       Address space per module     2 byte; + 2 bytes for Ql information       Hardware configuration     Yes       Submodules     Yes       • Mechanical coding element     Yes       Submodules     4       Submodules     4	Isochronous mode	No
• CounterNo• OversamplingNo• MSINoSupply voltageRated value (DC)24 Vpermissible range, lower limit (DC)19.2 Vpermissible range, upper limit (DC)28.8 VReverse polarity protectionYesInput currentCurrent consumption, max.90 mAEncoder supply• 24 VNoPower lossPower loss, typ.1.7 WAddress areaAddress areaAtdress gace per module• Inputs2 byte; + 2 bytes for QI informationHardware configurationYesSubmodules• Number of configurable submodules, max.4Selection of BaseUnit for connection variantsBU type A0	Operating mode	
• Oversampling     No       • MSI     No        24 V       permissible range, lower limit (DC)     19.2 V       permissible range, upper limit (DC)     28.8 V       Reverse polarity protection     Yes       Input current     Current consumption, max.       Current consumption, max.     90 mA       Encoder supply     24 V       • 24 V     No       Power loss     Power loss       Power loss typ.     1.7 W       Address space per module        • Inputs     2 byte; + 2 bytes for Ql information       Hardware configuration     Yes       Automatic encoding     Yes       • Mechanical coding element     Yes       Submodules        • Number of configurable submodules, max.     4       Selection of BaseUnit for connection variants     8U type A0	• DI	Yes
MSI 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 Input current Current consumption, max. 90 mA Encoder supply 24 V encoder supply 24 V encoder supply 24 V No Power loss Power loss, typ. 1.7 W Address space per module e Inputs 2 byte; + 2 bytes for QI information Hardware configuration Automatic encoding Yes Submodules e Mechanical coding element Yes Submodules e Number of configurable submodules, max. 4 Selection of BaseUnit for connection variants e 1-wire connection BU type A0	Counter	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         Input current       00 mA         Encoder supply       24 V         24 V encoder supply       24 V         • 24 V       No         Power loss       Power loss         Power loss spice per module       1.7 W         Address space per module       2 byte; + 2 bytes for Ql information         Hardware configuration       Yes         Automatic encoding       Yes         • Mechanical coding element       Yes         Submodules       -         • Number of configurable submodules, max.       4         Selection of BaseUnit for connection variants       -         • 1-wire connection       BU type A0	Oversampling	No
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         Input current       00 mA         Encoder supply       24 V         24 V encoder supply       0 mA         24 V encoder supply       0 mA         Power loss       Power loss         Power loss, typ.       1.7 W         Address space per module       1.7 W         Address space per module       2 byte; + 2 bytes for QI information         Hardware configuration       Yes         Automatic encoding       Yes         • Mechanical coding element       Yes         Submodules          • Number of configurable submodules, max.       4         Selection of BaseUnit for connection variants       BU type A0	• MSI	No
permissible range, lower limit (DC)       19.2 V         permissible range, upper limit (DC)       28.8 V         Reverse polarity protection       Yes         Input current       V         Current consumption, max.       90 mA         Encoder supply       24 V         24 V encoder supply       • 24 V         • 24 V       No         Power loss       Power loss         Power loss typ.       1.7 W         Address space per module       • 1.7 W         Address space per module       2 byte; + 2 bytes for Ql information         Hardware configuration       Yes         Automatic encoding       Yes         • Mechanical coding element       Yes         Submodules          • Number of configurable submodules, max.       4         Selection of BaseUnit for connection variants       BU type A0	Supply voltage	
permissible range, upper limit (DC)       28.8 V         Reverse polarity protection       Yes         Input current       Current consumption, max.       90 mA         Encoder supply       24 V encoder supply       24 V         • 24 V       No       Power loss         Power loss, typ.       1.7 W       Address area         Address space per module           • Inputs       2 byte; + 2 bytes for Ql information         Hardware configuration       Yes         Automatic encoding       Yes         • Mechanical coding element       Yes         Submodules       4         Selection of BaseUnit for connection variants       4         Selection of BaseUnit for connection variants       BU type A0	Rated value (DC)	24 V
Reverse polarity protection       Yes         Input current       90 mA         Current consumption, max.       90 mA         Encoder supply       24 V encoder supply         • 24 V       No         Power loss       No         Power loss, typ.       1.7 W         Address area       Address space per module         • Inputs       2 byte; + 2 bytes for Ql information         Hardware configuration       Yes         Automatic encoding       Yes         • Mechanical coding element       Yes         Submodules       4         Selection of BaseUnit for connection variants       4         Selection of BaseUnit for connection variants       BU type A0	permissible range, lower limit (DC)	19.2 V
Input current       90 mA         Current consumption, max.       90 mA         Encoder supply       24 V         24 V encoder supply       0         • 24 V       No         Power loss       1.7 W         Address area       Address space per module         • Inputs       2 byte; + 2 bytes for QI information         Hardware configuration       Yes         Automatic encoding       Yes         • Mechanical coding element       Yes         Submodules       4         Selection of BaseUnit for connection variants       4         Selection of BaseUnit for connection       BU type A0	permissible range, upper limit (DC)	28.8 V
Current consumption, max.       90 mA         Encoder supply       24 V         24 V encoder supply       0         • 24 V       No         Power loss         Power loss, typ.       1.7 W         Address area       4         Address space per module       2 byte; + 2 bytes for QI information         Hardware configuration       Yes         Automatic encoding       Yes         • Mechanical coding element       Yes         Submodules       4         Selection of BaseUnit for connection variants       6U type A0	Reverse polarity protection	Yes
Encoder supply         24 V encoder supply         24 V       No         Power loss         Power loss         Power loss, typ.       1.7 W         Address area       Address space per module         • Inputs       2 byte; + 2 bytes for QI information         Hardware configuration       Yes         Automatic encoding       Yes         • Mechanical coding element       Yes         Submodules       4         Selection of BaseUnit for connection variants       4         Selection of BaseUnit for connection variants       BU type A0	Input current	
24 V encoder supply       No         Power loss       No         Power loss, typ.       1.7 W         Address area       Address space per module         • Inputs       2 byte; + 2 bytes for QI information         Hardware configuration       Yes         • Mechanical coding element       Yes         • Number of configurable submodules, max.       4         Selection of BaseUnit for connection variants       • 1-wire connection         • 1-wire connection       BU type A0	Current consumption, max.	90 mA
• 24 VNoPower lossPower loss, typ.1.7 WAddress area1.7 WAddress space per module2 byte; + 2 bytes for QI information• Inputs2 byte; + 2 bytes for QI informationHardware configurationYesAutomatic encoding • Mechanical coding elementYesSubmodules4Submodules4Selection of BaseUnit for connection variants • 1-wire connectionBU type A0	Encoder supply	
Power loss       1.7 W         Address area       Address space per module         Address space per module       2 byte; + 2 bytes for QI information         Hardware configuration       2 byte; + 2 bytes for QI information         Automatic encoding       Yes         • Mechanical coding element       Yes         Submodules       4         Selection of BaseUnit for connection variants       8U type A0	24 V encoder supply	
Power loss, typ.       1.7 W         Address area       Address space per module         Address space per module       2 byte; + 2 bytes for QI information         Inputs       2 byte; + 2 bytes for QI information         Hardware configuration       Yes         Automatic encoding       Yes         • Mechanical coding element       Yes         Submodules       4         Selection of BaseUnit for connection variants       4         • 1-wire connection       BU type A0	• 24 V	No
Address area         Address space per module         • Inputs       2 byte; + 2 bytes for QI information         Hardware configuration         Automatic encoding       Yes         • Mechanical coding element       Yes         Submodules          • Number of configurable submodules, max.       4         Selection of BaseUnit for connection variants          • 1-wire connection       BU type A0	Power loss	
Address space per module         • Inputs       2 byte; + 2 bytes for QI information         Hardware configuration         Automatic encoding       Yes         • Mechanical coding element       Yes         Submodules       Yes         • Number of configurable submodules, max.       4         Selection of BaseUnit for connection variants       BU type A0	Power loss, typ.	1.7 W
• Inputs       2 byte; + 2 bytes for QI information         Hardware configuration          Automatic encoding       Yes         • Mechanical coding element       Yes         Submodules       Yes         • Number of configurable submodules, max.       4         Selection of BaseUnit for connection variants       • 1-wire connection         • 1-wire connection       BU type A0	Address area	
Hardware configuration         Automatic encoding       Yes         • Mechanical coding element       Yes         Submodules       Yes         • Number of configurable submodules, max.       4         Selection of BaseUnit for connection variants       4         • 1-wire connection       BU type A0	Address space per module	
Automatic encoding       Yes         • Mechanical coding element       Yes         Submodules       Yes         • Number of configurable submodules, max.       4         Selection of BaseUnit for connection variants       • 1-wire connection         • 1-wire connection       BU type A0	Inputs	2 byte; + 2 bytes for QI information
• Mechanical coding element     Yes       Submodules     •       • Number of configurable submodules, max.     4       Selection of BaseUnit for connection variants     •       • 1-wire connection     BU type A0	Hardware configuration	
Submodules         • Number of configurable submodules, max.       4         Selection of BaseUnit for connection variants         • 1-wire connection       BU type A0	Automatic encoding	Yes
• Number of configurable submodules, max.       4         Selection of BaseUnit for connection variants       • 1-wire connection         • 1-wire connection       BU type A0	<ul> <li>Mechanical coding element</li> </ul>	Yes
Selection of BaseUnit for connection variants       • 1-wire connection       BU type A0	Submodules	
• 1-wire connection BU type A0	<ul> <li>Number of configurable submodules, max.</li> </ul>	4
	Selection of BaseUnit for connection variants	
2-wire connection     BU type A0 + Potential distributor module	1-wire connection	BU type A0
	2-wire connection	BU type A0 + Potential distributor module

<ul> <li>3-wire connection</li> </ul>	BU type A0 + Potential distributor module
4-wire connection	BU type A0 + Potential distributor module
Digital inputs	
Number of digital inputs	16
Digital inputs, parameterizable	Yes
Source/sink input	P-reading
Input characteristic curve in accordance with IEC 61131,	Yes
type 3 Input voltage	
Rated value (DC)	24 V
• for signal "0"	-30 to +5 V
• for signal "1"	+11 to +30V
• for signal "1", typ.	2.5 mA
Input delay (for rated value of input voltage)	
for standard inputs	
— parameterizable	Yes; 0.05 / 0.1 / 0.4 / 0.8 / 1.6 / 3.2 / 12.8 / 20 ms (in each case + delay of 30 to 500 µs, depending on line length)
— at "0" to "1", min.	0.05 ms
— at "0" to "1", max.	20 ms
— at "1" to "0", min.	0.05 ms
— at "1" to "0", max.	20 ms
Cable length	
• shielded, max.	1 000 m
<ul> <li>unshielded, max.</li> </ul>	600 m
Encoder	
Connectable encoders	
2-wire sensor	Yes
<ul> <li>— permissible quiescent current (2-wire sensor),</li> </ul>	1.5 mA
max.	
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
Alarms     Diagnostic alarm	Yes
	Yes
Diagnostic alarm	Yes
Diagnostic alarm     Diagnoses	
<ul> <li>Diagnostic alarm</li> <li>Diagnoses</li> <li>Diagnostic information readable</li> <li>Monitoring the supply voltage <ul> <li>parameterizable</li> </ul> </li> </ul>	Yes Yes Yes
<ul> <li>Diagnostic alarm</li> <li>Diagnoses</li> <li>Diagnostic information readable</li> <li>Monitoring the supply voltage <ul> <li>parameterizable</li> <li>Monitoring of encoder power supply</li> </ul> </li> </ul>	Yes Yes Yes No
<ul> <li>Diagnostic alarm</li> <li>Diagnoses</li> <li>Diagnostic information readable</li> <li>Monitoring the supply voltage <ul> <li>parameterizable</li> </ul> </li> </ul>	Yes Yes Yes
<ul> <li>Diagnostic alarm</li> <li>Diagnoses</li> <li>Diagnostic information readable</li> <li>Monitoring the supply voltage <ul> <li>parameterizable</li> <li>Monitoring of encoder power supply</li> </ul> </li> </ul>	Yes Yes Yes No Yes; Module-by-module, optional protective circuit for preventing wire- break diagnostics in the case of simple encoder contacts: 25 kOhm to
<ul> <li>Diagnostic alarm</li> <li>Diagnoses</li> <li>Diagnostic information readable</li> <li>Monitoring the supply voltage <ul> <li>parameterizable</li> </ul> </li> <li>Monitoring of encoder power supply</li> <li>Wire-break</li> </ul>	Yes Yes Yes No Yes; Module-by-module, optional protective circuit for preventing wire- break diagnostics in the case of simple encoder contacts: 25 kOhm to 45 kOhm
<ul> <li>Diagnostic alarm</li> <li>Diagnoses</li> <li>Diagnostic information readable</li> <li>Monitoring the supply voltage <ul> <li>parameterizable</li> <li>Monitoring of encoder power supply</li> <li>Wire-break</li> </ul> </li> <li>Short-circuit</li> </ul>	Yes Yes Yes No Yes; Module-by-module, optional protective circuit for preventing wire- break diagnostics in the case of simple encoder contacts: 25 kOhm to 45 kOhm No
<ul> <li>Diagnostic alarm</li> <li>Diagnoses</li> <li>Diagnostic information readable</li> <li>Monitoring the supply voltage <ul> <li>parameterizable</li> <li>Monitoring of encoder power supply</li> <li>Wire-break</li> </ul> </li> <li>Short-circuit <ul> <li>Group error</li> </ul> </li> </ul>	Yes Yes Yes No Yes; Module-by-module, optional protective circuit for preventing wire- break diagnostics in the case of simple encoder contacts: 25 kOhm to 45 kOhm No
<ul> <li>Diagnostic alarm</li> <li>Diagnostic information readable</li> <li>Monitoring the supply voltage <ul> <li>parameterizable</li> <li>Monitoring of encoder power supply</li> <li>Wire-break</li> </ul> </li> <li>Short-circuit <ul> <li>Group error</li> </ul> </li> <li>Diagnostics indication LED</li> </ul>	Yes Yes Yes No Yes; Module-by-module, optional protective circuit for preventing wire- break diagnostics in the case of simple encoder contacts: 25 kOhm to 45 kOhm No Yes
<ul> <li>Diagnostic alarm</li> <li>Diagnoses</li> <li>Diagnostic information readable</li> <li>Monitoring the supply voltage <ul> <li>parameterizable</li> <li>Monitoring of encoder power supply</li> <li>Wire-break</li> </ul> </li> <li>Short-circuit <ul> <li>Group error</li> </ul> </li> <li>Diagnostics indication LED <ul> <li>Monitoring of the supply voltage (PWR-LED)</li> </ul> </li> </ul>	Yes Yes No Yes; Module-by-module, optional protective circuit for preventing wire- break diagnostics in the case of simple encoder contacts: 25 kOhm to 45 kOhm No Yes Yes
<ul> <li>Diagnostic alarm</li> <li>Diagnoses</li> <li>Diagnostic information readable</li> <li>Monitoring the supply voltage <ul> <li>parameterizable</li> <li>Monitoring of encoder power supply</li> <li>Wire-break</li> </ul> </li> <li>Short-circuit <ul> <li>Group error</li> </ul> </li> <li>Diagnostics indication LED <ul> <li>Monitoring of the supply voltage (PWR-LED)</li> <li>Channel status display</li> </ul> </li> </ul>	Yes Yes No Yes; Module-by-module, optional protective circuit for preventing wire- break diagnostics in the case of simple encoder contacts: 25 kOhm to 45 kOhm No Yes Yes; green PWR LED Yes; green LED
<ul> <li>Diagnostic alarm</li> <li>Diagnoses</li> <li>Diagnostic information readable</li> <li>Monitoring the supply voltage <ul> <li>parameterizable</li> <li>Monitoring of encoder power supply</li> <li>Wire-break</li> </ul> </li> <li>Short-circuit <ul> <li>Group error</li> </ul> </li> <li>Diagnostics indication LED <ul> <li>Monitoring of the supply voltage (PWR-LED)</li> <li>Channel status display</li> <li>for channel diagnostics</li> </ul> </li> </ul>	Yes Yes Yes No Yes; Module-by-module, optional protective circuit for preventing wire- break diagnostics in the case of simple encoder contacts: 25 kOhm to 45 kOhm No Yes Yes Yes; green PWR LED Yes; green LED No
<ul> <li>Diagnostic alarm</li> <li>Diagnoses</li> <li>Diagnostic information readable</li> <li>Monitoring the supply voltage <ul> <li>parameterizable</li> <li>Monitoring of encoder power supply</li> <li>Wire-break</li> </ul> </li> <li>Short-circuit <ul> <li>Group error</li> </ul> </li> <li>Diagnostics indication LED <ul> <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> </li> </ul>	Yes Yes Yes No Yes; Module-by-module, optional protective circuit for preventing wire- break diagnostics in the case of simple encoder contacts: 25 kOhm to 45 kOhm No Yes Yes Yes; green PWR LED Yes; green LED No
<ul> <li>Diagnostic alarm</li> <li>Diagnoses</li> <li>Diagnostic information readable</li> <li>Monitoring the supply voltage <ul> <li>parameterizable</li> <li>Monitoring of encoder power supply</li> <li>Wire-break</li> </ul> </li> <li>Short-circuit <ul> <li>Group error</li> </ul> </li> <li>Diagnostics indication LED <ul> <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> </li> </ul>	Yes Yes Yes No Yes; Module-by-module, optional protective circuit for preventing wire- break diagnostics in the case of simple encoder contacts: 25 kOhm to 45 kOhm No Yes Yes Yes; green PWR LED Yes; green LED No
<ul> <li>Diagnostic alarm</li> <li>Diagnoses</li> <li>Diagnostic information readable</li> <li>Monitoring the supply voltage         <ul> <li>parameterizable</li> <li>Monitoring of encoder power supply</li> <li>Wire-break</li> </ul> </li> <li>Short-circuit         <ul> <li>Group error</li> </ul> </li> <li>Diagnostics indication LED             <ul> <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> </li> <li>Potential separation channels</li> </ul>	Yes Yes No Yes; Module-by-module, optional protective circuit for preventing wire- break diagnostics in the case of simple encoder contacts: 25 kOhm to 45 kOhm No Yes Yes Yes; green PWR LED Yes; green LED No Yes; green/red DIAG LED
<ul> <li>Diagnostic alarm</li> <li>Diagnoses</li> <li>Diagnostic information readable</li> <li>Monitoring the supply voltage <ul> <li>parameterizable</li> <li>Monitoring of encoder power supply</li> <li>Wire-break</li> </ul> </li> <li>Short-circuit <ul> <li>Group error</li> </ul> </li> <li>Diagnostics indication LED <ul> <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> </li> <li>Potential separation channels <ul> <li>between the channels</li> </ul> </li> </ul>	Yes Yes No Yes; Module-by-module, optional protective circuit for preventing wire- break diagnostics in the case of simple encoder contacts: 25 kOhm to 45 kOhm No Yes Yes; green PWR LED Yes; green LED No Yes; green/red DIAG LED
<ul> <li>Diagnostic alarm</li> <li>Diagnoses</li> <li>Diagnostic information readable</li> <li>Monitoring the supply voltage <ul> <li>parameterizable</li> <li>Monitoring of encoder power supply</li> <li>Wire-break</li> </ul> </li> <li>Short-circuit <ul> <li>Group error</li> </ul> </li> <li>Diagnostics indication LED <ul> <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> </li> <li>Potential separation</li> <li>Potential separation channels <ul> <li>between the channels</li> <li>between the channels and backplane bus</li> <li>between the channels and the power supply of the</li> </ul> </li> </ul>	Yes Yes Yes No Yes; Module-by-module, optional protective circuit for preventing wire- break diagnostics in the case of simple encoder contacts: 25 kOhm to 45 kOhm No Yes Yes; green PWR LED Yes; green PWR LED Yes; green LED No Yes; green/red DIAG LED
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Ambient conditions	
Ambient temperature during operation	
horizontal installation, min.	-40 °C; = Tmin (incl. condensation/frost)
horizontal installation, max.	70 °C; = Tmax
Altitude during operation relating to sea level	
<ul> <li>Installation altitude above sea level, max.</li> </ul>	5 000 m
Ambient air temperature-barometric pressure- altitude	Tmin Tmax at 1 140 hPa 795 hPa (-1 000 m +2 000 m) // Tmin (Tmax - 10 K) at 795 hPa 658 hPa (+2 000 m +3 500 m) // Tmin (Tmax -20 K) at 658 hPa 540 hPa (+3 500 m +5 000 m)
Relative humidity	
With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; incl. condensation / frost permitted (no commissioning under condensation conditions)
Resistance	
Coolants and lubricants — Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air
Use in stationary industrial systems	
<ul> <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> <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> <li>— to mechanically active substances according to EN 60721-3-3</li> </ul>	Yes; Class 3S4 incl. sand, dust, *
<ul> <li>Against mechanical environmental conditions acc. to EN 60721-3-3</li> </ul>	Yes; Class 3M8 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0)
Use on ships/at sea	
<ul> <li>— to biologically active substances according to EN 60721-3-6</li> </ul>	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request
<ul> <li>— to chemically active substances according to EN 60721-3-6</li> </ul>	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
<ul> <li>— to mechanically active substances according to EN 60721-3-6</li> </ul>	Yes; Class 6S3 incl. sand, dust; *
<ul> <li>Against mechanical environmental conditions acc. to EN 60721-3-6</li> </ul>	Yes; Class 6M4 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0)
Usage in industrial process technology	
<ul> <li>Against chemically active substances acc. to EN 60654-4</li> </ul>	Yes; Class 3 (excluding trichlorethylene)
<ul> <li>Environmental conditions for process, measuring and control systems acc. to ANSI/ISA- 71.04</li> </ul>	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)
Remark	
<ul> <li>Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04</li> </ul>	* The supplied plug covers must remain in place over the unused interfaces during operation!
Conformal coating	
<ul> <li>Coatings for printed circuit board assemblies acc. to EN 61086</li> </ul>	Yes; Class 2 for high reliability
<ul> <li>Protection against fouling acc. to EN 60664-3</li> <li>Military testing according to MIL-I-46058C,</li> </ul>	Yes; Type 1 protection Yes; Discoloration of coating possible during service life
<ul><li>Amendment 7</li><li>Qualification and Performance of Electrical</li></ul>	Yes; Conformal coating, Class A
Insulating Compound for Printed Board Assemblies according to IPC-CC-830A	
Dimensions	
Width	15 mm
Height	73 mm 58 mm
Depth Weights	
Weights Weight, approx.	28 g
Togri, approx.	
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