## SIEMENS

## Data sheet

## 6AG1222-1BH32-4XB0

SIPLUS S7-1200 SM 1222 16DQ based on 6ES7222-1BH32-0XB0 with conformal coating, -20…+60  $^\circ C$ , digital output 16 DQ, 24 V DC, transistor 0.5 A



General information		
Product type designation	SM 1222, DQ 16x24 V DC/0.5 A	
Supply voltage		
permissible range, lower limit (DC)	20.4 V	
permissible range, upper limit (DC)	28.8 V	
Input current		
from backplane bus 5 V DC, max.	140 mA	
Power loss		
Power loss, typ.	2.5 W	
Digital outputs		
Number of digital outputs	16	
• in groups of	1	
Short-circuit protection	No; to be provided externally	
Limitation of inductive shutdown voltage to	typ. (L+) -48 V	
Switching capacity of the outputs		
<ul> <li>with resistive load, max.</li> </ul>	0.5 A	
<ul> <li>on lamp load, max.</li> </ul>	5 W	
Output voltage		
<ul> <li>Rated value (DC)</li> </ul>	24 V	
<ul> <li>for signal "0", max.</li> </ul>	0.1 V; with 10 kOhm load	
● for signal "1", min.	20 V DC	
Output current		
<ul> <li>for signal "1" rated value</li> </ul>	0.5 A	
<ul> <li>for signal "0" residual current, max.</li> </ul>	10 μΑ	
Output delay with resistive load		
• "0" to "1", max.	50 µs	
• "1" to "0", max.	200 µs	
Total current of the outputs (per group)		
horizontal installation		
— up to 50 °C, max.	8 A; Current per mass	
Relay outputs		
Switching capacity of contacts		
— with inductive load, max.	0.5 A	
— on lamp load, max.	5 W	
— with resistive load, max.	0.5 A	
Cable length		
• shielded, max.	500 m	
<ul> <li>unshielded, max.</li> </ul>	150 m	
Interrupts/diagnostics/status information		

Alams         • Diagnosise and the aupply volage         Yes           • Monitoring the aupply volage         Yes           • Information and the aupply volage         Yes           • for status of the outputs         Yes           • between the channels and backplane bus         500 V AC           Degrees and class of protection         IP20           Ambient conditions         IP degree of protection           • rank.         0.3 m; five times, in product package           • min.         -20 *C; = Tmin (ncl. condensation/froat); start-up @ 0 *C           • max.         0 *C -           • Acid relatin, min.         -0 *C -           • max.         -         0 *C -	Diagnostics function	Yes
• Diagnostic alarm         Yes           Diagnostic alarm         Yes           • Monking the supply voltage         Yes           • For status of the outputs         Yes           • for maintenance         Yes           • Potential segaration         Grow maintenance           • Potential segaration digital outputs         Yes           • Everem the channels group of the outputs         500 V AC           Dagnes and class of protection         JP20           Ambient conditions         Protection           • Price fail         • Or C           • Time.         - 20 °C; = Timix (red. condensation/frost); start-up @ 0 °C           • min.         - 20 °C; = Timix (red. condensation/frost); start-up @ 0 °C           • min.         - 00 °C           • Anotic freating population relating to sea level         Timin.           • Intrin.         - 40 °C           • max.         70 °C           AMbited temperature during gorarian sportation         Timin.           • Anotic freating population relating to sea level         Timin		
Diagnostics indication LED         Yes           Diagnostics indication LED         Yes           For status of the outputs         Yes           Or status of the outputs         Yes           Potential separation         Potential separation           Potential separation digital outputs         1           • between the channels, in groups of         1           • between the channels, in groups of         1           • Bark meth channels, in groups of         1           • Bark meth channels, in groups of         1           • Bark meth channels, in groups of         1           • Fait height, max.         0.3 m; five limes, in product package           Ambient conditions         -20 °C; = Tmin (incl. condensation/fiost); start-up @ 0 °C           • max.         0.3 °C           Ambient temperature during operation         -20 °C; = Tmax           • indiallation altude during operation relating to sea level         5000 m		Yes
Monitoring the supply voltage     For status of the outputs     for status		
Diagnostics indication LED         Yes           • for status of the outputs         Yes           • for finite separation         Yes           Potential separation         1           • between the channels and backplane bus         500 V AC           Pagee and class of protection         IP 20           Ambient conditions         IP 20           • Fall height, max.         0.3 m, five times, in product package           • min.         -20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C           • min.         -0 °C           • max.         0 °C           • Antioent temperature during operation         -0 °C           • max.         0 °C           • Antioent temperature during to sea level         -0 °C           • Installation atflude during operation relating to sea level         -0 °C           • Installation atflude during operation relating to sea level         -0 °C           • Maxie temperature during to sea level         -0 °C           • Installation atflude during operation relating to sea level         -0 °C           • Or Co         -0 °C         -0 °C      <	-	Yes
• for status of the outputs         Yes           • for maintenance         Yes           Potential separation         Formative support of the channels, in proport of the channels, in proport of the channels, in product package           Protection         IP20           Ambient conditions         IP20           Price fail         0.3 m; five times, in product package           Ambient temperature during operation         0.3 m; five times, in product package           Ambient temperature during operation         0.3 m; five times, in product package           Ambient temperature during operation         0.0 m; five times, in product package           Ambient temperature during operation         0.0 °C           Ambient temperature during to seas level, max.         0.1 °C           • min.         -0 °C           Ambient temperature-barometric pressure-attruct. 10 / 3 r 26 Pra 404 0 °C         0 °C           Ambient air temperature-barometric pressure-attrue to the pressure attrue commension front (no m + 2 000 m) // Tmin (Tmax - 20 / 3 r 26 Pra 404 Pra (+ 2 500 m + 2 000 m) // Tmin (Tmax - 20 / 3 r 26 Pra 404 Pra (+ 2 500 m + 3 500 m) // Tmin (Tmax - 20 / 3 r 26 Pra 404 Pra (+ 2 500 m + 3 500 m) // Tmin (Tmax - 20 / 3 r 26 Pra 404 Pra (+ 2 500 m + 3 500 m) // Tmin (Tmax - 20 / 3 r 26 Pra 404 Pra (+ 2 500 m + 3 500 m) // Tmin (Tmax - 20 / 3 r 26 Pra 404 Pra (+ 2 500 m + 3 500 m) // Tmin (Tmax - 20 / 3 r 26 Pra 404 Pra (+ 2 500 m + 5 00 m) // Tmin (Tm		
Potential separation digital outputs           Potential separation digital outputs           • between the channels, in groups of • between the channels, in groups of • between the channels, in groups of • Between the channels and backplane bus • Degree and class of protection           IP degree of protection         IP20           Ambient conditions	-	Yes
Potential separation digital outputs       1         • between the channels in groups of       1         • between the channels and backplane bus       500 V AC         Degree and class of protection       IP20         Ambient conditions       IP20         Free fail       - C2 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C         • min.       - 20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C         • min.       - 20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C         • min.       - 40 °C         • max.       70 °C         Attitude during operation relating to sea level       5 000 m         • Installation altitude above sea level, max.       5 000 m         • Ambient temperature burnidity       5 000 m         • Relative humidity       5 000 m         • Relative humidity       5 000 m         • With condensation, relating to sea level       6 000 m +2 000 m	• for maintenance	Yes
between the channels, in groups of between the channels and backplane bus 500 V AC Begree and class of protection Pegree and class of protection Pegree and class of protection Perfer fail efail height, max. Anotient temperature during sporation emin. end restart, min. end restart, max. end restart, min. end restart, min. end restart, restart, start, 140 hPa, 795 hPa (-1000 m +2 000 m) // Train end restarts and restart start, start, 140 hPa, 795 hPa (-1000 m +2 000 m) // Train end restarts and restart start ocommercially available coolants and lubricants end before a substances according to EN 60721-3-3 to beilogically active substances according to EN 60721-3-3 to beilogically active substances according to EN 60721-3-3 end restart biologically active substances according to EN 60721-3-3 to hemically active substances according to EN 60721-3-3 to beilogically active substances according to EN 60721-3-4 to beilogically active substances according to EN 6072	Potential separation	
between the channels and backplane bus     Bogree and class of protection     IP degree of protection     Infin.     Infin	Potential separation digital outputs	
Degree and class of protection         IP 20           Ambient conditions         IP 20           Free fall         0.3 m, five times, in product package           Ambient enditions         -20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C           • min.         -20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C           • min.         -20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C           • min.         -40 °C           • max.         0 °C           Antibient temperature during operation relating to sea level         -0 °C           • instalation altitude above sea level, max.         -Anbient at remperature-barometric pressure- aftitude           • Instalation altitude above sea level, max.         5 000 m           • Ambient at temperature-barometric pressure- aftitude         (Tmax - 10 K) at 795 hPa (-1 000 m, +2 000 m) // Tmin (Tmax - 20 K) at 658 hPa (+2 000 m, +5 000 m)           • Relative humidity         • With condensation, tested in accordance with IEC 60088-2-38, max.         5 000 m           • Coloants and lubricants         - Resistance         100 %, RH Incl. condensation/frost (no commissioning under condensation conditions)           Resistance         - to biologically active substances according to EN 60721-3.3         Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request           · to homechanically active substances according to EN 6	between the channels, in groups of	1
IP degree of protection       IP20         Ambient conditions <ul> <li>Fall height, max.</li> <li>0.3 m; five times, in product package</li> <li>Ambient temperature during operation</li> <li>min.</li> <li>max.</li> <li>At cold restart, min.</li> <li>C</li> <li>Ambient temperature during storage/transportation</li> <li>min.</li> <li>max.</li> <li>C</li> <li>Attitude during operation relating to sea level</li> <li>Installation altitude above sea level, max.</li> <li>Ambient temperature during storage/transportation</li> <li>Installation altitude above sea level, max.</li> <li>Ambient temperature during operation relating to sea level</li> <li>Installation altitude above sea level, max.</li> <li>Ambient temperature-barreture-barometric pressure- altitude</li> <li>Installation altitude above sea level, max.</li> <li>Ambient temperature-barometric pressure- altitude</li> <li>Installation altitude substances according to EN 600721-3.3</li> <li>Evelative humidity</li> <li>Coolanits and lubricants</li> <li>Resistance</li> <li>Coolanits and lubricants</li> <li>Tencisitant to commercially available coolants and lubricants</li> <li>Ten biologically active substances according to EN 60721-3.3</li> <li>Evel or stationary industrial systems</li> <li>To mechanically active substances according to EN 60721-3.4</li> <li>Yes; Class 382 nm equest</li> <li>Yes; Class 383 on request</li> <li>Yes; Cl</li></ul>	<ul> <li>between the channels and backplane bus</li> </ul>	500 V AC
Ambient conditions         Free fail         • Fail height, max.       0.3 m; five times, in product package         Ambient temperature during operation       -20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C         • min.       -20 °C; = Tmix         • At cold restart, min.       -40 °C         • min.       -40 °C         • min.       -40 °C         • min.       -40 °C         • max.       -40 °C         Ambient temperature during storage/transportation       -0 °C         • min.       -40 °C         • max.       -Ambient air temperature-barometric pressure- alitude       -(max + 10 k) at 795 hPa 150 hPa (+1 000 m + 2 000 m) // Tmin (Tmax + 10 k) at 795 hPa 560 hPa (+2 000 m + 3 000 m) // Tmin (Tmax + 20 k) at 658 hPa 560 hPa (+2 000 m + 3 000 m) // Tmin (Tmax + 20 k) at 658 hPa 560 hPa (+2 000 m + 5 000 m) // Tmin (Tmax + 20 k) at 658 hPa 560 hPa (+2 000 m + 5 000 m) // Tmin (Tmax + 20 k) at 658 hPa 560 hPa (+2 000 m + 5 000 m) // Tmin (Tmax + 20 k) at 658 hPa 568 hPa (+2 000 m + 5 000 m) // Tmin (Tmax + 20 k) at 658 hPa 568 hPa (+2 000 m + 5 000 m) // Tmin (Tmax + 20 k) at 658 hPa 568 hPa (+2 000 m + 5 000 m) // Tmin (Tmax + 20 k) at 658 hPa 568 hPa (+2 000 m + 5 000 m) // Tmin (Tmax + 20 k) at 658 hPa 568 hPa (+2 000 m + 5 000 m) // Tmin (Tmax + 20 k) at 658 hPa 568 hPa (+2 000 m + 5 000 m) // Tmin (Tmax + 20 k) at 658 hPa 568 hPa (+2 000 m + 5 000 m) // Tmin (Tmax + 10 k) at 583 m request </td <td>Degree and class of protection</td> <td></td>	Degree and class of protection	
Free fail       0.3 m; five times, in product package         Ambient temperature during operation       -20 °C; = Tmix         • min.       -20 °C; = Tmix         • At old restart, min.       -20 °C; = Tmix         • At old restart, min.       -40 °C         • min.       -40 °C         • min.       -70 °C         Ambient temperature during storage/transportation       -40 °C         • min.       -70 °C         Attitude during operation relating to sea level       -10 °C         • Installation attitude above sea level, max.       -5000 m         • Installation attitude above sea level, max.       -10 °C         • Installation attitude above sea level, max.       -10 °C         • With condensation, tested in accordance with IEC       5000 m         600°C3-23, max.       -20 °C; = Tmax         Coolants and lubricants       -20 °C         - e biologically active substances according to EN 60721-3.3       Yes; Class 322 mold, fungus and dry rot spores (with the exception of fauna); Class 383 on request         - b nochanically active substances according to EN 60721-3.4       Yes; Class 3C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severit) degree 3); *	IP degree of protection	IP20
Free fail       0.3 m; five times, in product package         Ambient temperature during operation       -20 °C; = Tmix         • min.       -20 °C; = Tmix         • At old restart, min.       -20 °C; = Tmix         • At old restart, min.       -40 °C         • min.       -40 °C         • min.       -70 °C         Ambient temperature during storage/transportation       -40 °C         • min.       -70 °C         Attitude during operation relating to sea level       -10 °C         • Installation attitude above sea level, max.       -5000 m         • Installation attitude above sea level, max.       -10 °C         • Installation attitude above sea level, max.       -10 °C         • With condensation, tested in accordance with IEC       5000 m         600°C3-23, max.       -20 °C; = Tmax         Coolants and lubricants       -20 °C         - e biologically active substances according to EN 60721-3.3       Yes; Class 322 mold, fungus and dry rot spores (with the exception of fauna); Class 383 on request         - b nochanically active substances according to EN 60721-3.4       Yes; Class 3C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severit) degree 3); *	Ambient conditions	
Ambient temperature during operation       -20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C         • min.       -20 °C; = Tmax       0 °C         • At cold restart, min.       0 °C         • min.       -40 °C         • max.       0 °C         • Installation altitude above sea level, max.       -40 °C         • Installation altitude above sea level, max.       -40 °C         • Installation altitude above sea level, max.       -40 °C         • Mithic ondensation, tested in accordance with IEC       5000 m         (Tmax - 10k) at 758 Pia (-1000 m +2 000 m) // Tmin       -70 °C         Relative humidity       5000 m         • With condensation, tested in accordance with IEC       100 %; RH incl. condensation/frost (no commissioning under condensation conditions)         Resistance       100 %; RH incl. condensation/frost (no commissioning under condensation conditions)         Resistance       100 %; RH incl. condensation/frost (no commissioning under condensation conditions)         Ves; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request         - to biologically active substances according to EN 60721-3-3         EN 60721-3-3       Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request         - to chemically active substances according to EN 60721-3-4         EN 60721-3-5       Yes; Class 6B2 m		
Ambient temperature during operation       -20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C         • min.       -20 °C; = Tmax       0 °C         • At cold restart, min.       0 °C         • min.       -40 °C         • max.       0 °C         • Installation altitude above sea level, max.       -40 °C         • Installation altitude above sea level, max.       -40 °C         • Installation altitude above sea level, max.       -40 °C         • Mithic ondensation, tested in accordance with IEC       5000 m         (Tmax - 10k) at 758 Pia (-1000 m +2 000 m) // Tmin       -70 °C         Relative humidity       5000 m         • With condensation, tested in accordance with IEC       100 %; RH incl. condensation/frost (no commissioning under condensation conditions)         Resistance       100 %; RH incl. condensation/frost (no commissioning under condensation conditions)         Resistance       100 %; RH incl. condensation/frost (no commissioning under condensation conditions)         Ves; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request         - to biologically active substances according to EN 60721-3-3         EN 60721-3-3       Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request         - to chemically active substances according to EN 60721-3-4         EN 60721-3-5       Yes; Class 6B2 m	<ul> <li>Fall height, max.</li> </ul>	0.3 m; five times, in product package
<ul> <li>min.</li> <li>-20 °C; = Trnix (incl. condensation/frost); start-up @ 0 °C</li> <li>0 °C</li> <li>Ant cold restart, min.</li> <li>0 °C</li> <li>Ambient temperature during storage/transportation</li> <li>min.</li> <li>-40 °C</li> <li>max.</li> <li>70 °C</li> <li>Attitude during operation relating to sea level</li> <li>Installation altitude above sea level, max.</li> <li>Ambient lair temperature-barometric pressure- altitude</li> <li>Installation altitude above sea level, max.</li> <li>Ambient lair temperature-barometric pressure- altitude</li> <li>Installation altitude above sea level, max.</li> <li>Ambient lair temperature-barometric pressure- altitude</li> <li>Trnin Trnax at 1 140 hPa 795 hPa (-1 000 m +2 000 m) // Trnin  (Trmax - 10 k) at 755 hPa 540 hPa (+2 000 m +2 000 m) // Trnin  (Trmax - 10 k) at 755 hPa 540 hPa (+2 000 m +2 000 m) // Trnin  (Trmax - 10 k) at 755 hPa 540 hPa (+2 000 m +2 000 m) // Trnin  (Trmax - 10 k) at 755 hPa 540 hPa (+2 000 m +2 000 m) // Trnin  (Trmax - 10 k) at 755 hPa 540 hPa (+2 000 m +2 000 m) // Trnin  (Trmax - 10 k) at 755 hPa 540 hPa (+2 000 m +2 000 m) // Trnin  (Trmax - 10 k) at 755 hPa 540 hPa (+2 000 m +2 000 m) // Trnin  (Trmax - 10 k) at 555 hPa 540 hPa (+2 000 m +2 000 m) // Trnin  (Trmax - 10 k) at 555 hPa 540 hPa (+2 000 m +2 000 m) // Trnin  (Trmax - 10 k) at 555 hPa 540 hPa (+2 000 m +2 000 m) // Trnin  (Trmax - 10 k) at 555 hPa 540 hPa (+2 000 m +2 000 m) // Trnin  (Trmax - 10 k) at 555 hPa 540 hPa (+2 000 m +2 000 m) // Trnin  (Trmax - 10 k) at 555 hPa 540 hPB (+2 000 m +2 000 m) // Trnin  (Trmax - 10 k) at 555 hPa 540 hPB (+2 000 m +2 000 m) // Trnin  (Trmax - 10 k) at 555 hPa 540 hPB (+2 000 m +2 000 m) // Trnin  (Trmax - 10 k) at 555 hPa 540 hPB (+2 000 m +2 000 m) // Trnin  (Trmax - 10 k) at</li></ul>	-	
<ul> <li>max.</li> <li>60 °C; = Tmax</li> <li>0 °C</li> <li>Anbient temperature during storage/transportation</li> <li>min.</li> <li>-40 °C</li> <li>max.</li> <li>70 °C</li> <li>Altitude during operation relating to sea level</li> <li>Installation altitude above sea level, max.</li> <li>Ambient temperature-barometric pressure- altitude</li> <li>Installation altitude above sea level, max.</li> <li>Ambient air temperature-barometric pressure- altitude</li> <li>Installation altitude above sea level, max.</li> <li>Ambient air temperature-barometric pressure- altitude</li> <li>Installation altitude above sea level, max.</li> <li>Ambient air temperature-barometric pressure- altitude</li> <li>Installation altitude above sea level, max.</li> <li>Coolents and lubricants</li> <li>Resistance</li> <li>Coolants and lubricants</li> <li>- Resistant to commercially available coolants and lubricants</li> <li>- to chemically active substances according to EN 60721-3-3</li> <li>- to chemically active substances according to EN 60721-3-3</li> <li>- to chemically active substances according to EN 60721-3-3</li> <li>- to biologically active substances according to EN 60721-3-3</li> <li>- to chemically active substances according to EN 60721-3-3</li> <li>- to chemically active substances according to EN 60721-3-3</li> <li>- to chemically active substances according to EN 60721-3-6</li> <li>- to biologically active substances according to EN 60721-3-6</li> <li>- to chemically active substances according to EN 60721-3-6</li> <li>- Environmental conditions for process, measuing and control systems acc. to ANSI/ISA- 71.04<td>· • • •</td><td>-20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C</td></li></ul>	· • • •	-20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C
At cold restart, min.     O "C      Ambient temperature during storage/transportation     min.     max.     70 "C      Attitude during operation relating to sea level     installation altitude above sea level, max.     for a c      Ambient air temperature-barometric pressure-     aittitude     installation altitude above sea level, max.     for a c      Ambient air temperature-barometric pressure-     aittitude     installation altitude above sea level, max.     for a c      Ambient air temperature-barometric pressure-     aittitude     installation altitude above sea level, max.     for a c      Ambient air temperature-barometric pressure-     aittitude     installation altitude above sea level, max.     for a c      installation altitude above sea level, max.     for a c      installation altitude above sea level, max.     for a c      installation altitude above sea level, max.     installation altitude above sea level, max.     for a c      installation altitude above sea level, max.     installatinde above sea level, max.     instoble case above above above ab	• max.	
<ul> <li>min.</li> <li>-40 °C</li> <li>max.</li> <li>70 °C</li> <li>Altitude during operation relating to sea level</li> <li>Installation altitude above sea level, max.</li> <li>Ambient air temperature-barometric pressure- altitude</li> <li>With condensation, tested in accordance with IEC</li> <li>60068-2-38, max.</li> <li>Coolents and lubricants</li> <li>Coolants and lubricants</li> <li>Coolants and lubricants</li> <li>The sistance</li> <li>Coolants and lubricants</li> <li>Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request</li> <li>Yes; Class 3B4 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request</li> <li>Yes; Class 3B4 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request</li> <li>Yes; Class 3B4 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request</li> <li>Yes; Class 3B4 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request</li> <li>Yes; Class 3B4 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request</li> <li>Yes; Class 3B4 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request</li> <li>Yes; Class 3B4 mold, fungus and dry rot spores (with the exception of fauna); Class 3B4 mold, fungus and dry rot spores (with the exception of fauna); Class 3B4 mold, fungus and dry rot spores (with the exception of fauna); Class 3B4 mold, fungus and dry rot spores (with the exception of fauna); Class 3B4 mold, fungus and dry rot spores (with the exception of fauna); Class 3B4 mold, fungus and dry rot spores (with the exception of fauna); Class 3B4 mold, fungus and dry rot spores (with the exception of fauna); Class 3B4 mold, fungus and dry rot spores (with the exception of exception dry rot spores (with the exception of exercity degree 3); *</li> <li>Yes; Class 6B2 mold and fungal spores (excluding fauna); Cl</li></ul>	• At cold restart, min.	
• max.       70 °C         Altitude during operation relating to sea level       500 m         • Installation altitude above sea level, max.       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 (-540 hPa (+2 000 m +3 500 m) // Tmin (Tmax - 20 K) at 658 hPa (+2 000 m +3 500 m) // Tmin (Tmax - 20 K) at 658 hPa (+2 000 m +3 500 m) // Tmin (Tmax - 20 K) at 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       100 %; RH incl. condensation/frost (no commissioning under condensation conditions)         Resistance       200 m)         Coolants and lubricants       Yes; Incl. diesel and oil droplets in the air and lubricants         Use in stationary industrial systems       Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request         - to chemically active substances according to EN 60721-3-3       Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request         - to biologically active substances according to EN 60721-3-6       Yes; Class 6G3 (RH < 75 %) incl. sait spray acc. to EN 60068-2-52 (severity degree 3);*         - to chemically active substances according to EN 60721-3-6       Yes; Class 6G2 mold and fungal spores (excluding fauna); Class 6B3 on request         - to biologically active substances according to EN 60721-3-6       Yes; Class 6G3 incl. sand, dust; * <t< td=""><td>Ambient temperature during storage/transportation</td><td></td></t<>	Ambient temperature during storage/transportation	
Altitude during operation relating to sea level       • Installation altitude above sea level, max.         • Ambient air temperature-barometric pressure- altitude       5 000 m         • Ambient air temperature-barometric pressure- altitude       5 000 m         • With condensation, tested in accordance with IEC 60068-2-38, max.       5 000 m         • With condensation, tested in accordance with IEC 60068-2-38, max.       100 %; RH incl. condensation/frost (no commissioning under condensation conditions)         • Resistance       100 %; RH incl. condensation/frost (no commissioning under condensation conditions)         • Resistance       100 %; RH incl. condensation/frost (no commissioning under condensation conditions)         • Los biologically active substances according to EN 60721-3-3       Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request         • to thechanically active substances according to EN 60721-3-3       Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *         • to beilogically active substances according to EN 60721-3-6       Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *         • to beilogically active substances according to EN 60721-3-6       Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *         • to beneclaily active substances according to EN 60721-3-6       Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *         • to hemically act	• min.	-40 °C
• Installation altitude above sea level, max.         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 - 10 K) at 795 hPa 540 hPa (+3 500 m +3 500 m) // Tmin (Tmax - 10 K) at 795 hPa 540 hPa (+3 500 m +3 500 m) // Tmin (Tmax - 10 K) at 795 hPa 540 hPa (+3 500 m +3 500 m) // Tmin (Tmax - 10 K) at 795 hPa 540 hPa (+3 500 m +3 500 m) // Tmin (Tmax - 10 K) at 795 hPa 540 hPa (+3 500 m +3 500 m) // Tmin (Tmax - 10 K) at 795 hPa 540 hPa (+3 500 m +3 500 m) // Tmin (Tmax - 10 K) at 795 hPa 540 hPa (+3 500 m +3 500 m) // Tmin (Tmax - 10 K) at 795 hPa 540 hPa (+3 500 m +3 500 m) // Tmin (Tmax - 10 K) at 140 hPa 795 hPa (-1 000 m +3 000 m)           Resistance         100 %; RH incl. condensation/frost (no commissioning under condensation conditions)           Resistance         100 %; RH incl. condensation/frost (no commissioning under condensation conditions)           Use in stationary industrial systems         45 (-1 400 m +2 000 m)           - to biologically active substances according to EN 60721-3-3         Yes; Class 328 on request           - to chemically active substances according to EN 60721-3-6         Yes; Class 662 mold and fungal spores (excluding fauna); Class 6B3 on request           - to chemically active substances according to EN 60721-3-6         Yes; Class 612 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3);*           - to chemically active substances according to EN 60721-3-6	• max.	70 °C
• Ambient air temperature-barometric pressure- altitude       Tmin Tmax at 11 40 PB 795 PB 4 (4 000 m +2 000 m) // Tmin (Tmax - 10 K) at 795 PB a 658 hPa (±2 000 m +3 000 m) // Tmin (Tmax - 20 K) at 656 hPa 540 hPa (±2 000 m +5 000 m)         Relative humidity       • 00 %; RH incl. condensation./fost (no commissioning under cooleas2-38, max.         Coolants and lubricants       • 00 %; RH incl. condensation./fost (no commissioning under condensation conditions)         Resistance       • 00 %; RH incl. condensation./fost (no commissioning under condensation conditions)         Vesistant to commercially available coolants and lubricants       • 100 %; RH incl. condensation./fost (no commissioning under condensation conditions)         Use in stationary industrial systems       • to biologically active substances according to EN 60721-3-3         - to chemically active substances according to EN 60721-3-3       Yes; Class 3B3 on request         - to biologically active substances according to EN 60721-3-6       Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request         - to biologically active substances according to EN 60721-3-6       Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3).*         - to biologically active substances according to EN 60721-3-6       Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3).*         - to mechanically active substances according to EN 60721-3-6       Yes; Class 6S3 incl. sand, dust, *         - to themically active substances according to	Altitude during operation relating to sea level	
atitude       (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       • (Tmax -20 K) at 658 hPa 540 hPa (+3 500 m +5 000 m)         • With condensation, tested in accordance with IEC 60068-2-38, max.       100 %; RH incl. condensation/frost (no commissioning under condensation conditions)         Resistance       100 %; RH incl. condensation/frost (no commissioning under condensation conditions)         Coolants and lubricants       Yes; Incl. diesel and oil droplets in the air         - Resistance       Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fama); Class 3B3 on request         - to biologically active substances according to EN 60721-3-3       Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	<ul> <li>Installation altitude above sea level, max.</li> </ul>	5 000 m
Relative humidity       • With condensation, tested in accordance with IEC 60068-2-38, max.       100 %; RH incl. condensation/frost (no commissioning under condensation conditions)         Resistance       Coolants and lubricants       - Resistant to commercially available coolants and lubricants         - Resistant to commercially available coolants and lubricants       Yes; Incl. diesel and oil droplets in the air         Use in stationary industrial systems       - to biologically active substances according to EN 60721-3-3       Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request         - to chemically active substances according to EN 60721-3-3       Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *		(Tmax - 10 K) at 795 hPa 658 hPa (+2 000 m +3 500 m) // Tmin
With condensation, tested in accordance with IEC 60068-2-38, max.     The supplied plug covers must remain in place over the unused interfaces during operation!     Set and set	Relative humidity	
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       Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request         — to chemically active substances according to EN 60721-3-3       Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *         — to mechanically active substances according to EN 60721-3-3       Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request         — to biologically active substances according to EN 60721-3-6       Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *         Use on ships/at sea       Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *         — to themically active substances according to EN 60721-3-6       Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *         Usage in industrial process technology       Yes; Class 3 (excluding trichlorethylene)         — Against chemically active substances acc. to EN 60654-4       Yes; Class 3 (excluding trichlorethylene)         Yes; Class 3 (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       - Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04	With condensation, tested in accordance with IEC	
Coolants and lubricants       — Resistant to commercially available coolants and lubricants       Yes; Incl. diesel and oil droplets in the air         Use in stationary industrial systems       — to biologically active substances according to EN 60721-3-3       Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request         — to chemically active substances according to EN 60721-3-3       Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *		
and lubricants       Use in stationary industrial systems         — to biologically active substances according to EN 60721-3-3       Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request         — to chemically active substances according to EN 60721-3-3       Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *         — to mechanically active substances according to EN 60721-3-3       Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request         — to biologically active substances according to EN 60721-3-6       Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *         — to mechanically active substances according to EN 60721-3-6       Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *         — to mechanically active substances according to EN 60721-3-6       Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *         Usage in industrial process technology       — - Against chemically active substances acc. to EN 60654-4       Yes; Class 3 (excluding trichlorethylene)         Yes; Class 3 (excluding trichlorethylene)       Yes; Class 3 (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); Ievel LC3 (salt spray) and level LB3 (oil)         Remark       - Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04       * The supplied plug covers must remain in place over the unused interfaces during operation!		
to biologically active substances according to EN 60721-3-3Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request to chemically active substances according to EN 60721-3-3Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request to mechanically active substances according to EN 60721-3-3Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *Use on ships/at seaYes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request to chemically active substances according to EN 60721-3-6Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); * to mechanically active substances according to EN 60721-3-6Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); * to mechanically active substances according to EN 60721-3-6Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); * to mechanically active substances according to EN 60721-3-6Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); * to mechanically active substances according to EN 60654-4Yes; Class 3 (excluding trichlorethylene) Against chemically active substances acc. to EN 60654-4Yes; Class 3 (excluding trichlorethylene) Environmental conditions for process, measuring and control systems acc. to ANSI/ISA- 71.04Yes; 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 <td< td=""><td>5</td><td>Yes; Incl. diesel and oil droplets in the air</td></td<>	5	Yes; Incl. diesel and oil droplets in the air
EN 60721-3-3       fauna); Class 3B3 on request         — to chemically active substances according to EN 60721-3-3       Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *         — to mechanically active substances according to EN 60721-3-6       Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request         — to biologically active substances according to EN 60721-3-6       Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *         — to chemically active substances according to EN 60721-3-6       Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *         — to mechanically active substances according to EN 60721-3-6       Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *         Usage in industrial process technology       — Against chemically active substances acc. to EN 60654-4       Yes; Class 3 (excluding trichlorethylene)         Memark       — Environmental conditions for process, measuring and control systems acc. to ANSI/ISA- 71.04       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       * The supplied plug covers must remain in place over the unused interfaces during operation!         Conformal coating       * The supplied plug covers must remain in place over the unused interfaces during operation!	Use in stationary industrial systems	
EN 60721-3-3(severity degree 3); * to mechanically active substances according to EN 60721-3-3Yes; Class 3S4 incl. sand, dust, *Use on ships/at sea to biologically active substances according to EN 60721-3-6Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request to chemically active substances according to EN 60721-3-6Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); * to mechanically active substances according to EN 60721-3-6Yes; Class 6C3 incl. sand, dust; * to mechanically active substances according to EN 60721-3-6Yes; Class 6C3 incl. sand, dust; * to mechanically active substances according to EN 6054-4Yes; Class 3 (excluding trichlorethylene) Against chemically active substances acc. to EN 60654-4Yes; Class 3 (excluding trichlorethylene) Environmental conditions for process, measuring and control systems acc. to ANSI/ISA- 71.04Yes; 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 Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04* The supplied plug covers must remain in place over the unused interfaces during operation!		
EN 60721-3-3         Use on ships/at sea         — to biologically active substances according to EN 60721-3-6         — to chemically active substances according to EN 60721-3-6         — to mechanically active substances according to EN 60721-3-6         — to mechanically active substances according to EN 60721-3-6         Usage in industrial process technology         — Against chemically active substances acc. to EN 60654-4         — Environmental conditions for process, measuring and control systems acc. to ANSI/ISA- 71.04         Remark         — Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04         Conformal coating	EN 60721-3-3	
— to biologically active substances according to EN 60721-3-6Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request— to chemically active substances according to EN 60721-3-6Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *— to mechanically active substances according to EN 60721-3-6Yes; Class 6S3 incl. sand, dust; *Usage in industrial process technologyYes; Class 3 (excluding trichlorethylene)— Against chemically active substances acc. to EN 60654-4Yes; Class 3 (excluding trichlorethylene)— Environmental conditions for process, measuring and control systems acc. to ANSI/ISA- 71.04Yes; 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-Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04* The supplied plug covers must remain in place over the unused interfaces during operation!Conformal coating-		Yes; Class 3S4 incl. sand, dust, *
EN 60721-3-6request— to chemically active substances according to EN 60721-3-6Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *— to mechanically active substances according to EN 60721-3-6Yes; Class 6S3 incl. sand, dust; *Usage in industrial process technologyYes; Class 3 (excluding trichlorethylene)— Against chemically active substances acc. to EN 60654-4Yes; Class 3 (excluding trichlorethylene)— Environmental conditions for process, measuring and control systems acc. to ANSI/ISA- 71.04Yes; 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-Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04* The supplied plug covers must remain in place over the unused interfaces during operation!Conformal coating-		
EN 60721-3-6(severity degree 3); * to mechanically active substances according to EN 60721-3-6Yes; Class 6S3 incl. sand, dust; *Usage in industrial process technology Against chemically active substances acc. to EN 60654-4Yes; Class 3 (excluding trichlorethylene) Environmental conditions for process, measuring and control systems acc. to ANSI/ISA- 71.04Yes; 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 Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04* The supplied plug covers must remain in place over the unused interfaces during operation!	EN 60721-3-6	•
EN 60721-3-6       Usage in industrial process technology         — Against chemically active substances acc. to EN 60654-4       Yes; Class 3 (excluding trichlorethylene)         — Environmental conditions for process, measuring and control systems acc. to ANSI/ISA- 71.04       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       * The supplied plug covers must remain in place over the unused interfaces during operation!         Conformal coating       * The supplied plug covers must remain in place over the unused		(severity degree 3); *
<ul> <li>Against chemically active substances acc. to EN 60654-4</li> <li>Environmental conditions for process, measuring and control systems acc. to ANSI/ISA- 71.04</li> <li>Remark</li> <li>Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04</li> <li>* The supplied plug covers must remain in place over the unused interfaces during operation!</li> <li>* The supplied plug covers must remain in place over the unused interfaces during operation!</li> </ul>		Yes; Class 6S3 incl. sand, dust; *
EN 60654-4       — Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04       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       — Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04       * The supplied plug covers must remain in place over the unused interfaces during operation!         Conformal coating       * Conformal coating	Usage in industrial process technology	
measuring and control systems acc. to ANSI/ISA- 71.04       concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)         Remark       — Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04       * The supplied plug covers must remain in place over the unused interfaces during operation!         Conformal coating       * Conformal coating	EN 60654-4	
<ul> <li>Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04</li> <li>* The supplied plug covers must remain in place over the unused interfaces during operation!</li> <li>Conformal coating</li> </ul>	measuring and control systems acc. to ANSI/ISA-	concentrations up to the limits of EN 60721-3-3 class 3C4 permissible);
conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04       interfaces during operation!         Conformal coating       Interfaces during operation!	Remark	
	conditions acc. to EN 60721, EN 60654-4 and	
Coatings for printed circuit board assemblies acc. to Yes: Class 2 for high reliability		
EN 61086	Coatings for printed circuit board assemblies acc. to	Yes; Class 2 for high reliability

<ul> <li>Protection against fouling acc. to EN 60664-3</li> </ul>	Yes; Type 1 protection
<ul> <li>Military testing according to MIL-I-46058C, Amendment 7</li> </ul>	Yes; Discoloration of coating possible during service life
<ul> <li>Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A</li> </ul>	Yes; Conformal coating, Class A
connection method / header	
required front connector	Yes
Mechanics/material	
Enclosure material (front)	
Plastic	Yes
Dimensions	
Width	45 mm
Height	100 mm
Depth	75 mm
Weights	
Weight, approx.	220 g
last modified:	12/18/2020 🖸