## SIEMENS

## Data sheet

## 6AG1221-1BF32-4XB0



SIPLUS S7-1200 SM 1221 8DI based on 6ES7221-1BF32-0XB0 with conformal coating, -20...+60 °C, digital input 8 DI, 24 V DC, sink/source

Figuresimilar

General information	
Product type designation	SM 1221, DI 8x24 V DC
Supply voltage	
Rated value (DC)	24 V
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.	105 mA
Digital inputs	
<ul> <li>from load voltage L+ (without load), max.</li> </ul>	4 mA; per channel
output voltage / header	
supply voltage of the transmitters / header	
<ul> <li>product function / supply voltage for transmitters</li> </ul>	Yes
Power loss	
Power loss, typ.	1.5 W
Digital inputs	
Number of digital inputs	8
<ul> <li>in groups of</li> </ul>	2
Input characteristic curve in accordance with IEC 61131, type 1	Yes
Number of simultaneously controllable inputs	
all mounting positions	
— up to 40 °C, max.	8
horizontal installation	
— up to 40 °C, max.	8
— up to 50 °C, max.	8
vertical installation	
— up to 40 °C, max.	8
Input voltage	
<ul> <li>Rated value (DC)</li> </ul>	24 V
● for signal "0"	5 V DC at 1 mA
● for signal "1"	15 V DC at 2.5 mA
Input current	
<ul> <li>for signal "0", max. (permissible quiescent current)</li> </ul>	1 mA
● for signal "1", min.	2.5 mA
<ul> <li>for signal "1", typ.</li> </ul>	4 mA
Input delay (for rated value of input voltage)	
for standard inputs	
— parameterizable	Yes; 0.2 ms, 0.4 ms, 0.8 ms, 1.6 ms, 3.2 ms, 6.4 ms and 12.8 ms, selectable in groups of four

for interrupt inputs         — parameterizable       Yes         Cable length       500 m         • unshielded, max.       500 m         Interrupts/diagnostics/status information       Yes         Diagnostics function       Yes         • Diagnostics function       Yes         • Diagnostics function       Yes         • Monitoring the supply voltage       Yes         • for status of the inputs       Yes         • for status of the inputs       Yes         • for status of the inputs       Yes         • between the channets, in groups of       2         Degree and class of protection       IP20         Ambient conditions       Free fail         • Free fail       • Fail height, max.         • anal.       0.3 m; five times, in product package         Ambient temperature during operation       0 °C         • min.       -20 °C; = Timax       0 °C         • min.       -40 °C       Timax = 0 40 °C       Co         • min.       -40 °C       Timax = 0 40 °C       Co         • min.       -40 °C       Timax = 0 40 °C       Co       Co         • instalation attitude above sea level, max.       70 °C       Co       Co       Co       Co	
Cable length       • shielded, max.       500 m         • unshielded, max.       300 m         Interrupts/diagnostics/status information       Yes         Atarms       •         • Diagnostic alarm       Yes         Diagnostic alarm       Yes         Diagnostic alarm       Yes         Diagnostic alarm       Yes         • Monitoring the supply voltage       Yes         • for status of the inputs       Yes         • for status of the inputs       Yes         • for status of the inputs       Yes         • between the channels, in groups of       2         Degree and class of protection       IP20         Ambient conditions       IP20         Free fail       • Status of the ing storage/transportation         • min.       -20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C         Anbient conditions       60 °C; = Tmax         • anax.       0 °C         • At cold restart, min.       -40 °C         • insitilation altitude above sea level, max.       70 °C         • Insitilation altitude above sea level, max.       5000 m         • Nithe condensation, free times, and Uniform.       -40 °C         • Note in astalloria multubricants       5000 m         <	
• shielded, max.         500 m           • unshielded, max.         300 m           Diagnostic status information         Yes           Attimis         • Diagnostic alarm           • Diagnostic alarm         Yes           Diagnostic is indication LED         • Yes           • for maintenance         Yes           Potential separation digital inputs         • Yes           • between the channels, in groups of         2           Degree and class of protection         IP20           Ambient conditions         IP20           Free fall         • Fall height, max.         0.3 m; five times, in product package           Ambient temperature during operation         -20 °C; = Tmix (incl. condensation/frost); start-up @ 0 °C           • min.         -20 °C; = Timx (incl. condensation/frost); start-up @ 0 °C           • min.         -20 °C; = Timx (incl. condensation/frost); start-up @ 0 °C           • min.         -20 °C; = Timx (incl. condensation/frost); start-up @ 0 °C           • min.         -20 °C = Timx           • min.         -20 °C = Timx (incl. condensation/frost); start-up @ 0 °C           • min.         -20 °C = Timx           • min.         -20 °C = Timx           • Mittude during operation relating to sea level         500 m           • Installation alti	
unshielded, max. 300 m Interrupts/diagnostics/status information Diagnostics function Ves Alarms Diagnostic slarm Ves Diagnostic slarm Diagnostic slarmost Diagnost Diagnost Diagnostic slarmost Diagnost Diagnost Diag	
Diagnostics function       Yes         Alarms       • Diagnostic alarm         • Diagnostic alarm       Yes         Diagnostics indication LED       • Fee         • for status of the inputs       Yes         • for maintenance       Yes         Potential separation digital inputs       •         • for status of the inputs       Yes         Potential separation digital inputs       •         • between the channels, in groups of       2         Degree and class of protection       IP20         IP degree of protection       IP20         Ambient conditions       •         Free fail       • C; = Tmin (incl. condensation/frost); start-up @ 0 °C         • min.       -20 °C; = Tmax         • At cold restart, min.       -20 °C; = Tmax         • At cold restart, min.       -20 °C; = Tmax         • At cold restart, min.       -40 °C         • max.       -70 °C         Altitude during operation relating to sea level       •         • Installation altitude above sea level, max.       500 m         • Installation altitude above sea level, max.       500 m         • Mohient ain temperature-barometric pressure- altitude       •         • Installation altitude above sea level, max.       100 %; RH in	
Alarms       Yes         Diagnoses       • Monitoring the supply voltage       Yes         • Monitoring the supply voltage       Yes         • In a status of the inputs       Yes         • for status of the inputs       Yes         • between the channels, in groups of       2         Degree and class of protection       IP20         IP degree of protection       IP20         Ambient conditions       -         • refe fail       • free fail         • nin.       -20 °C; = Tmax         • At cold restart, min.       0 °C         • Anbient temperature during storage/transportation       -         • inin.       -40 °C         • max.       70 °C         Altitude during operation relating to sea level       -         • installation altitude above sea level, max.       5000 m         • installation altitude above sea level, max.       70 °C	
Alarms       Yes         Diagnoses       • Monitoring the supply voltage       Yes         • Monitoring the supply voltage       Yes         • In a status of the inputs       Yes         • for status of the inputs       Yes         • between the channels, in groups of       2         Degree and class of protection       IP20         IP degree of protection       IP20         Ambient conditions       -         • refe fail       • free fail         • nin.       -20 °C; = Tmax         • At cold restart, min.       0 °C         • Anbient temperature during storage/transportation       -         • inin.       -40 °C         • max.       70 °C         Altitude during operation relating to sea level       -         • installation altitude above sea level, max.       5000 m         • installation altitude above sea level, max.       70 °C	
<ul> <li>Diagnostic alarm</li> <li>Yes</li> <li>Diagnoses</li> <li>Monitoring the supply voltage</li> <li>Yes</li> <li>Diagnostics indication LED</li> <li>for status of the inputs</li> <li>Yes</li> <li>for maintenance</li> <li>Yes</li> <li>Potential separation</li> <li>Potential separation digital inputs</li> <li>between the channels, in groups of</li> <li>2</li> <li>Degree and class of protection</li> <li>IP degree of protection</li> <li>IP degree of protection</li> <li>IP degree of protection</li> <li>Free fall</li> <li>Fall height, max.</li> <li>Ambient temperature during operation</li> <li>min.</li> <li>At cold restart, min.</li> <li>Anbient temperature during storage/transportation</li> <li>min.</li> <li>Ambient temperature during storage/transportation</li> <li>min.</li> <li>Anbient tair temperature bave sea level</li> <li>Installation attitude above sea level, max.</li> <li>Ambient tair temperature-barometric pressure- alitude</li> <li>Nithe and thoricants</li> <li>Coolants and lubricants</li> <li>Resistanct to commercially available coolants and lubricants</li> <li>Resistance</li> <li>Coolants and lubricants</li> <li>Resistant to commercially available coolants and lubricants</li> <li>Ves</li> <li>Ves</li> </ul>	
• Monitoring the supply voltage       Yes         Diagnostics indication LED       Yes         • for status of the inputs       Yes         • for maintenance       Yes         Potential separation       Potential separation digital inputs         • between the channels, in groups of       2         Degree and class of protection       IP20         Ambient conditions       Free fall         • 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; = Tmax         • At cold restart, min.       0 °C         Ambient temperature during storage/transportation       min.         • min.       -40 °C         • max.       70 °C         Attitude during operation relating to sea level       5000 m         • Installation altitude above sea level, max.       5000 m         • Motion and tubricants       Tmin Tmax at 1 140 PB 795 hPa (-1 000 m +2 000 m) // (Tmax - 20 K) at 658 hPa (+2 500 m +5 000 m)         • Resistance       Coolants and lubricants         - Resistant to commercially available coolants and lubricants       Yes         - Ne stationary industrial systems       Yes         - to biologically active	
Diagnostics indication LED <ul> <li>for status of the inputs</li> <li>for maintenance</li> <li>Yes</li> </ul> Potential separation <ul> <li>Potential separation digital inputs</li> <li>between the channels, in groups of</li> <li>2</li> </ul> Degree and class of protection <ul> <li>IP degree of protection</li> <li>IP degree of protection</li> </ul> Ambient conditions <ul> <li>Free fall</li> <li>Fall height, max.</li> <li>0.3 m; five times, in product package</li> </ul> Ambient temperature during operation <ul> <li>min.</li> <li>-20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C</li> <li>60 °C; = Tmax</li> <li>0 °C</li> </ul> Ambient temperature during storage/transportation <ul> <li>min.</li> <li>-40 °C</li> <li>max.</li> <li>-70 °C</li> </ul> Attitude during operation relating to sea level <ul> <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>With condensation, tested in accordance with IEC 60068-2-38, max.</li> <li>Coolants and lubricants</li> <li>Resistance</li> <li>Coolants and lubricants</li> <li>- Resistant to commercially available cool</li></ul>	
• for status of the inputs         Yes           • for maintenance         Yes           Potential separation         Potential separation digital inputs           • between the channels, in groups of         2           Degree and class of protection         IP2 0           Ambient conditions         IP2 0           Ambient conditions         Free fall           • Fall height, max.         0.3 m; five times, in product package           Ambient temperature during operation         -20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C           • max.         60 °C; = Tmax           • At cold restart, min.         0 °C           • Ambient temperature during storage/transportation         • max.           • Installation altitude above sea level         • Installation altitude above sea level, max.           • Ambient air temperature-barometric pressure- altitude         5 000 m           • With condensation, tested in accordance with IEC 60068-2-38, max.         5 000 m +3 000 m) // (Tmax +0 1 K) at 795 hPa 558 hPa (+2 000 m +3 000 m) // (Tmax +20 K) at 658 hPa 540 hPa (+3 500 m +5 000 m)           Resistance         Coolants and lubricants         100 %; RH incl. condensation/frost (no commissioning under condensation conditions)           Resistance         Yes         Yes           Coolants and lubricants         Yes	
• for maintenance       Yes         Potential separation       Potential separation digital inputs         • between the channels, in groups of       2         Degree and class of protection       IP20         Ambient conditions       IP20         Free fail       • Sampartic during operation         • Free fail       • C         • min.       -20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C         • mix.       -20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C         • At cold restart, min.       -0 °C         Ambient temperature during storage/transportation       -40 °C         • max.       70 °C         Attitude during operation relating to sea level       -(Tmax - 10 K) at 795 hPa (-1 000 m +2 000 m) // T (Tmax - 10 K) at 795 hPa 658 hPa (+2 000 m +3 500 m) // (Tmax - 10 K) at 795 hPa 540 hPa (+3 500 m +5 000 m)         • Anbient air temperature-barometric pressure- alitude       100 %; RH incl. condensation/frost (no commissioning under condensation conditions)         • With condensation, tested in accordance with IEC 60068-2-38, max.       - Resistant to commercially available coolants and lubricants         • — Resistant to commercially available coolants and lubricants       Yes; Class 3B2 mold, fungus and dry rot spores (with the exception fama); Class 3B3 on request         • to chemically active substances according to EN 60721-3-3       Yes; Class 3C4 (RH < 75 %)	
Potential separation         Potential separation         Potential separation digital inputs         • between the channels, in groups of         2         Degree and class of protection         IP degree of protection         Ambient conditions         Free fail         • Fail height, max.         Ambient temperature during operation         • min.         • max.         • At cold restart, min.         • At cold restart, min.         • At cold restart, min.         • max.         • At cold restart, min.         • max.         • C         • Installation altitude above sea level, max.         • At bient air temperature-barometric pressure- altitude         • Installation altitude above sea level, max.         • Ambient temperature-barometric pressure- altitude         • With condensation, tested in accordance with IEC 60068-2-38, max.         • Colants and lubricants         • Resistance         Coolants and lubricants         • To biologically active substances according to EN 60721-3-3         • to chemically active substances according to EN 60721-3-3	
Potential separation digital inputs       2         Degree and class of protection       IP20         Ambient conditions       IP20         Ambient conditions       Free fall         • Fall 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; = Tmin (incl. condensation/frost); start-up @ 0 °C         • max.       0 °C         • At cold restart, min.       -40 °C         • min.       -40 °C         • max.       70 °C         Altitude during operation relating to sea level       Installation altitude above sea level, max.         • Ambient air temperature-barometric pressure- altitude       5 000 m         • Installation altitude above sea level, max.       5 000 m         • Mith 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       Coolants and lubricants       Yes         • Resistant to commercially available coolants and lubricants       Yes         • to biologically active substances according to EN 60721-3-3       Yes; Class 3B2 mold, fungus and dry rot spores (with the exceptid fauna); Class 3	
• between the channels, in groups of       2         Degree and class of protection       IP20         Ambient conditions       IP20         Free fall       • Fall height, max.         • Fall height, max.       0.3 m; five times, in product package         Ambient temperature during operation       • 0°C; = Tmin (incl. condensation/frost); start-up @ 0 °C         • min.       -20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C         • max.       60 °C; = Tmax         • At cold restart, min.       0 °C         Ambient temperature during storage/transportation       • min.         • min.       -40 °C         • max.       70 °C         Altitude during operation relating to sea level       •         • Installation altitude above sea level, max.       5 000 m         • Ambient air temperature-barometric pressure- altitude       5 000 m         • Mith condensation, tested in accordance with IEC       500 %; RH incl. condensation/frost (no commissioning under cooleasts and lubricants         • Resistant to commercially available coolants and lubricants       Yes         • De biologically active substances according to EN 60721-3-3       Yes; Class 3B2 mold, fungus and dry rot spores (with the exceptic fauna); Class 3B3 on request         • to chemically active substances according to EN 60721-3-3       Yes; Class 3B2 mold, fungus and dry rot spores (wi	
Degree and class of protection       IP 20         Ambient conditions       IP 20         Ambient conditions       Free fall         • Fall 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; = Tmax         • At cold restart, min.       0 °C         Ambient temperature during storage/transportation       -40 °C         • max.       70 °C         Altitude during operation relating to sea level       5000 m         • Installation altitude above sea level, max.       5 000 m         • Ambient air temperature-barometric pressure- altitude       5000 m         • With condensation, tested in accordance with IEC 60068-2-38, max.       5000 m +2000 m) // (Tmax -10 K) at 795 hPa 558 hPa (+2 000 m +3 000 m) // (Tmax -20 K) at 658 hPa 540 hPa (+3 500 m +5 000 m)         Resistance       condensation conditions)         Colants and lubricants       Yes         Use in stationary industrial systems       Yes; Class 3B2 mold, fungus and dry rot spores (with the exceptic fauna); Class 3B3 on request         to biologically active substances according to EN 600721-3-3       Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-5	
IP degree of protection       IP20         Ambient conditions       Free fall         • Fall 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; = Tmax         • At cold restart, min.       0 °C         Ambient temperature during storage/transportation       • 40 °C         • min.       -40 °C         • max.       70 °C         Attitude during operation relating to sea level       • Installation altitude above sea level, max.         • Ambient air temperature-barometric pressure- altitude       5000 m         • Muther condensation, tested in accordance with IEC 60068-2-38, max.       5000 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)         Use in stationary industrial systems       Yes         — to biologically active substances according to EN 60721-3-3       Yes         — to chemically active substances according to EN 60721-3-3       Yes; Class 3B2 mold, fungus and dry rot spores (with the exceptic fauna); Class 3B3 on request         — to chemically active substances according to EN 60721-3-3       Yes; Class 3C4	
Ambient conditions         Free fall         • Fall height, max.         • Ambient temperature during operation         • min.         • min.         • At cold restart, min.         • At cold restart, min.         • Mabient temperature during storage/transportation         • min.         • min.         • Mabient temperature during storage/transportation         • min.         • min.         • min.         • nax.         • At cold restart, min.         • Mabient temperature during storage/transportation         • min.         • min.         • nax.         • At cold restart, min.         - Mobient temperature during to sea level         • Installation altitude above sea level, max.         • Ambient air temperature-barometric pressure- altitude         • Installation altitude above sea level, max.         • Ambient air temperature-barometric pressure- altitude         • With condensation, tested in accordance with IEC 60068-2-38, max.         • With condensation, tested in accordance with IEC 60068-2-38, max.         • Resistance         Coolants and lubricants         - Resistant to commercially available coolants and lubricants         - to biologically active subs	
Free fall <ul> <li>Free fall</li> <li>Fall height, max.</li> <li>Cas m; five times, in product package</li> </ul> Ambient temperature during operation              -20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C           • max.              -20 °C; = Tmax           • At cold restart, min.              0 °C           Ambient temperature during storage/transportation              0 °C           • max.              0 °C                -40 °C             -70 °C            Attidude during operation relating to sea level                -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) // T             (Tmax -10 K) at 795 hPa 658 hPa (+2 000 m +3 500 m) //             (Tmax -10 K) at 795 hPa 640 hPa (+3 500 m +5 000 m)            Relative humidity               Vith condensation, tested in accordance with IEC             60068-2-38, max.           Coolants and lubricants              - Resistance               100 %; RH incl. condensation/frost (no commissioning under             condensation conditions)               Yes	
<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>At 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>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>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</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>Train Tmax at 1 140 hPa 795 hPa (-1 000 m +2 000 m) // T  (Tmax - 10 K) at 795 hPa (-1 000 m +2 000 m) // T  (Tmax - 20 K) at 658 hPa 540 hPa (+3 500 m +5 000 m)</li> <li>Relative humidity</li> <li>With condensation, tested in accordance with IEC 60068-2-38, max.</li> <li>Coolants and lubricants</li> <li>— Resistant to commercially available coolants and lubricants</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</li> <li>Yes; Class 3B2 mold, fungus and dry rot spores (with the exceptior fauna); Class 3B3 on request</li> <li>Yes; Class 3C4 (RH &lt; 75 %) incl. salt spray acc. to EN 60068-2-5</li> </ul>	
Ambient temperature during operation         • min.         • max.         • At cold restart, min.         • At cold restart, min.         • Minemature during storage/transportation         • min.         • max.         • Mabient temperature during storage/transportation         • min.         • max.         • max.         • Installation altitude above sea level         • Installation altitude above sea level, max.         • Ambient air temperature-barometric pressure- altitude         • Mith condensation, tested in accordance with IEC 60068-2-38, max.         Resistance         Coolants and lubricants         - Resistant to commercially available coolants and lubricants         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	
<ul> <li>min.</li> <li>-20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C</li> <li>max.</li> <li>At cold restart, min.</li> <li>o °C</li> <li>Ambient temperature during storage/transportation         <ul> <li>min.</li> <li>-40 °C</li> <li>max.</li> <li>70 °C</li> </ul> </li> <li>Altitude during operation relating to sea level         <ul> <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>With condensation, tested in accordance with IEC 60068-2-38, max.</li> <li>Colants and lubricants</li> <li>Resistance</li> <li>Coolants and lubricants</li> <li>The sistant to commercially available coolants and lubricants</li> <li>us in stationary industrial systems</li> <li>to biologically active substances according to EN 60721-3-3</li></ul></li></ul>	
<ul> <li>max.</li> <li>At cold restart, min.</li> <li>At cold restart, min.</li> <li>O °C</li> <li>Ambient temperature during storage/transportation <ul> <li>min.</li> <li>-40 °C</li> <li>max.</li> <li>70 °C</li> </ul> </li> <li>Altitude during operation relating to sea level <ul> <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>With condensation, tested in accordance with IEC 60068-2-38, max.</li> </ul> </li> <li>Resistance <ul> <li>Coolants and lubricants</li> <li>Resistant to commercially available coolants and lubricants</li> <li>Use in stationary industrial systems</li> <li>to biologically active substances according to EN 60721-3-3 <ul> <li>to biologically active substances according to EN 60721-3-3</li> <li>to EN 60721-3-3</li> <li>to EN 60721-3-3</li> </ul> </li> </ul></li></ul>	
<ul> <li>At cold restart, min.</li> <li>0 °C</li> <li>Ambient temperature during storage/transportation         <ul> <li>min.</li> <li>40 °C</li> <li>max.</li> <li>70 °C</li> </ul> </li> <li>Attitude during operation relating to sea level         <ul> <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>Trini Trnax at 1 140 hPa 795 hPa (-1 000 m +2 000 m) // T  (Tmax - 10 K) at 795 hPa 658 hPa (+2 000 m +3 500 m) //  (Tmax - 20 K) at 658 hPa 540 hPa (+3 500 m +5 000 m)</li> </ul> </li> <li>Relative humidity         <ul> <li>With condensation, tested in accordance with IEC 60068-2-38, max.</li> <li>Coolants and lubricants             <ul> <li>Resistance</li> <li>Coolants and lubricants</li> <li>Resistant to commercially available coolants and lubricants</li> <li>Stationary industrial systems</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>Class 3B2 mold, fungus and dry rot spores (with the exception fauna); Class 3B3 on request</li> <li>Yes; Class 3C4 (RH &lt; 75 %) incl. salt spray acc. to EN 60068-2-5</li> </ul> </li> </ul></li></ul>	
Ambient temperature during storage/transportation       -40 °C         • max.       70 °C         Altitude during operation relating to sea level       -         • Installation altitude above sea level, max.       5 000 m         • Ambient air temperature-barometric pressure- altitude       5 000 m         • Mittude during operation relating to sea level       -         • Installation altitude above sea level, max.       5 000 m         • Ambient air temperature-barometric pressure- altitude       -         • Mittude during operation relating to sea level       -         • Ambient air temperature-barometric pressure- altitude       -         • Mittude during operation, tested in accordance with IEC 60068-2-38, max.       5 000 m         Resistance       100 %; RH incl. condensation/frost (no commissioning under condensation conditions)         Resistance       100 %; RH incl. condensation/frost (no commissioning under condensation conditions)         Resistance       Yes         Use in stationary industrial systems       Yes; Class 3B2 mold, fungus and dry rot spores (with the exception fauna); 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 60068-2-5	
<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>Mathematical Ambient air temperature-barometric pressure- altitude</li> <li>Mathematical Ambient air temperature-barometric pressure- altitude</li> <li>With condensation, tested in accordance with IEC 60068-2-38, max.</li> <li>With condensation, tested in accordance with IEC 60068-2-38, max.</li> <li>With condensation, tested in accordance with IEC coolants and lubricants</li> <li>Mesistance</li> <li>Use in stationary industrial systems</li> <li>- to biologically active substances according to EN 60721-3-3</li> <li>Yes; Class 3B2 mold, fungus and dry rot spores (with the exception fauna); Class 3B3 on request</li> <li>Yes; Class 3C4 (RH &lt; 75 %) incl. salt spray acc. to EN 60068-2-55</li> </ul>	
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Altitude during operation relating to sea level <ul> <li>Installation altitude above sea level, max.</li> <li>Ambient air temperature-barometric pressure- altitude</li> <li>Tmin Tmax at 1 140 hPa 795 hPa (-1 000 m +2 000 m) // T  (Tmax - 10 K) at 795 hPa 658 hPa (+2 000 m +3 500 m) //  (Tmax -20 K) at 658 hPa 540 hPa (+3 500 m +5 000 m)</li> </ul> Relative humidity <ul> <li>With condensation, tested in accordance with IEC 60068-2-38, max.</li> <li>Coolants and lubricants</li> <li>Resistance</li> <li>Coolants and lubricants</li> <li>Resistant to commercially available coolants and lubricants</li> <li>Use in stationary industrial systems</li> <li>to biologically active substances according to EN 60721-3-3             <li>to chemically active substances according to EN 60068-2-5</li> </li></li></li></li></li></li></li></li></li></ul>	
<ul> <li>Installation altitude above sea level, max.</li> <li>Ambient air temperature-barometric pressure- altitude</li> <li>Tmin Tmax at 1 140 hPa 795 hPa (-1 000 m +2 000 m) // T  (Tmax - 10 K) at 795 hPa 658 hPa (+2 000 m +3 500 m) //  (Tmax - 20 K) at 658 hPa 540 hPa (+3 500 m +5 000 m)</li> <li>Relative humidity</li> <li>With condensation, tested in accordance with IEC 60068-2-38, max.</li> <li>With condensation, tested in accordance with IEC 60068-2-38, max.</li> <li>Coolants and lubricants</li> <li>Resistance</li> <li>Coolants and lubricants</li> <li>Nesistant to commercially available coolants and lubricants</li> <li>Use in stationary industrial systems</li> <li>to biologically active substances according to EN 60721-3-3</li> <li>Test Class 3B2 mold, fungus and dry rot spores (with the exception fauna); Class 3B3 on request</li> <li>Yes; Class 3C4 (RH &lt; 75 %) incl. salt spray acc. to EN 60068-2-5</li> </ul>	
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60068-2-38, max.       condensation conditions)         Resistance         Coolants and lubricants         — Resistant to commercially available coolants and lubricants         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 3B2 mold, fungus and dry rot spores (with the exception fauna); Class 3B3 on request         Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-5	
Resistance         Coolants and lubricants         — Resistant to commercially available coolants and lubricants         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 3B2 mold, fungus and dry rot spores (with the exception fauna); Class 3B3 on request         Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-5	
Coolants and lubricants       — Resistant to commercially available coolants and lubricants       Yes         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 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 60068-2-5	
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and lubricants         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 3B2 mold, fungus and dry rot spores (with the exception fauna); Class 3B3 on request         Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-5	
<ul> <li>to biologically active substances according to EN 60721-3-3</li> <li>to chemically active substances according to</li> <li>Yes; Class 3B2 mold, fungus and dry rot spores (with the exception fauna); Class 3B3 on request</li> <li>Yes; Class 3C4 (RH &lt; 75 %) incl. salt spray acc. to EN 60068-2-5</li> </ul>	
EN 60721-3-3fauna); Class 3B3 on request— to chemically active substances according toYes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-5	
— to chemically active substances according to Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-5	n of
	2
	<u>-</u>
— to mechanically active substances according to Yes; Class 3S4 incl. sand, dust, *	
EN 60721-3-3	
Use on ships/at sea	
- to biologically active substances according to EN 60721-3-6 Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6 request	
- to chemically active substances according to Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-5	2
EN 60721-3-6 (severity degree 3); * — to mechanically active substances according to EN 60721-3-6 Yes; Class 6S3 incl. sand, dust; *	
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- Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permiss	ible);
71.04 level LC3 (salt spray) and level LB3 (oil) Remark	
— Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and * The supplied plug covers must remain in place over the unused interfaces during operation!	
ANSI/ISA-71.04	
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> </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.	170 g
last modified:	4/1/2022 🖸