SIEMENS

Data sheet

6AG1321-1BH02-2AA0



SIPLUS S7-300 SM 321 20-pole based on 6ES7321-1BH02-0AA0 with conformal coating, -40...+70 $^\circ\text{C},$ digital input isolated 16 DI, 24 V DC, 1x 20-pole

Supply voltage	
Load voltage L+	
 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.	10 mA
Power loss	
Power loss, typ.	3.5 W
Digital inputs	
Number of digital inputs	16
Input characteristic curve in accordance with IEC 61131, type 1	Yes
Number of simultaneously controllable inputs	
horizontal installation	
— up to 40 °C, max.	16
— up to 60 °C, max.	16; 16 @ > 60 °C
vertical installation	
— up to 40 °C, max.	16
Input voltage	
Type of input voltage	DC
Rated value (DC)	24 V
 for signal "0" 	-30 to +5 V
• for signal "1"	13 to 30V
Input current	
● for signal "1", typ.	7 mA
Input delay (for rated value of input voltage)	
for standard inputs	
— parameterizable	No
— at "0" to "1", min.	1.2 ms
— at "0" to "1", max.	4.8 ms
— at "1" to "0", min.	1.2 ms
— at "1" to "0", max.	4.8 ms
Cable length	
 shielded, max. 	1 000 m
 unshielded, max. 	600 m
Encoder	
Connectable encoders	
• 2-wire sensor	Yes

max. No Aurras No Diagnostics indicate status information No Diagnostics function No Aurras • Diagnostics function No • Andreas • Diagnostics indication LED • Andreas interrupt • Andreas indication digital input (green) • Strati andreas in digital input (green) • Strati andreas indication digital input (green) • Strati andreas indication digital input (green) • Detween the channels, input (g	— permissible quiescent current (2-wire sensor),	1.5 mA	
Aarms No Diagnostics function No Alarms No • Diagnostics inferrupt No • Bratwase interrupt No • Status infector digital input (green) Yes Potential separation Potential separation • Detween the channels in groups of 16 • between the channels and backplane bus Yes Isolation tested with Stotus infected with Stotus infected with Stotus infected with Status infected with Yes RAM (commerly C-TICK) Yes Rex (comparison infected with) Yes Railway application Yes Railway application Yes Railway application Yes Imbient conditions Tim. Ambient temperature during storage/transportation 40 °C ;= Timin ?0 °C ;= Tima; 50 °C @ UL/UL, ATEX and FM use Ambient temperature during storage/transportation Tim	max.		
Diagnestics function No Alamis No Alamis No Alamis No Alamis No Hardware interrupt No Obgenestics indicator LED Yes Potential separation Potential separation Potential separation No Exbetwent the channels in groups of to between the channels and backplane bus Yes: Optocoupler Isolation tested with 500 V DC Standards, approvals, conflictus Yes CE mark Yes UL approval Yes CAC (omerty C-11CK) Yes Catadrad, approval Yes Action tested with 500 V DC Standards, approval Yes CAC (omerty Co-1CK) Yes CAR (demerty Co-1CK) Yes Raikway application Yes Mobient conditions Antibient temperature during operation reliating to sea level Immark 70 *C; = Tmax; 60 *C (2) ULcUL, ATEX and FM use Antibient temperature during operation reliating to sea level 100 %; RH incl. condensatio	Interrupts/diagnostics/status information		
Aarms No • Diagnostic alarm No • Hardware interrupt No • Status indication LED • • Status indicator digital inputs • • Detween the channels in groups of 16 • between the channels and backplane bus Yes; Optoccupter Isolation tested with 500 V DC Standards, approvals, cartificates • CE mark Yes; File E239977 RCM (formerly C-TICK) Yes C. Agroval Yes; Sections 4, 5 and 12; no further agreements apply; T1, Category 1, Class AB, EN 60155.2007 (see SIOS entry 109755865) Ambient temperature during operation • • Fink 40 °C; = Tmin • max. 70 °C Athibits during operation elsel with 5000 m • min. -40 °C • min. -70 °C Ambient temperature during storage/transportation • • max. 70 °C Athibited during operation relating to ass level, max. 70 °C • Install ation aphatismic baronelic pressure- antuce 500 m • Install ation aphatismis bastomes according to EN 60721-	Alarms	No	
Obgrostic atarm No Status indicator digital input (green) Yes Potential separation Potential separation Obtained the channels No obtween the channels No obtween the channels No obtween the channels No obtween the channels Solo VDC Standards, approvals, certificates OC Emark Yes Ves Copproval Certificates OC OC Certificates OC Certificates OC Certificates OC Oc OC Oc Certificates Oc	Diagnostics function	No	
Hear No Diagnostics indication LED • • Stable indicator digital input (green) Yes Potential separation • • between the channels in groups of 16 • between the channels in groups of 16 • between the channels in groups of 16 • between the channels and backplane bus Yes; Labstron Standards, approvals, certificates CC mark Yes; UL approval Yes; CR digmostic Yes; RCM (formerly C-TICK) Yes CC ground Yes RAIkay approval Yes EAC (formerly Gost R) Yes Raikay application - • EN 50155 Yes: Sections 4, 5 and 12; no further agreements apply; T1, Category 1, Cat	Alarms		
Diagonatics indication LED Yes Potential separation Potential separation (green) Yes Potential separation in groups of 16 • between the channels in groups of 16 • between the channels in groups of 500 V DC Isolation tested with 500 V DC Standards, sprovals, certificates CE mark CE mark Yes CAC (ormerly C-TICK) Yes CAC (ormerly C-TICK) Yes CE Act (ormerly C-STICK) Yes Railway application Yes • EN 50155 Yes: Sections 4, 5 and 12; no further agreements apply; T1, Category 1, Class AB, EN 50155 2007 (see SIOS entry 109755985) Ambient conditions Ambient temperature during operation • min. -40 °C ; = Tmin 70 °C • min. -70 °C • Installand authoge above see level, max. -70 °C • Ambient air temperature during operation releting to sea level - • min. -10 °C • max. 70 °C • Max. 70 °C Ambient air temperature during stragetmax. 70 °C • Inst	 Diagnostic alarm 	No	
• Status indicator digital input (green) Yes Potential separation digital inputs No • between the channels in groups of 16 No • between the channels in groups of 16 Status indicator separoval • between the channels and backplane bus Yes; Optocoupler Isolation Status indicators, approvals, certificates CE mark Yes; U, approval Yes; C4 groups Yes; C4 groups Yes; C4 groups Yes; ReX (dromerly Catch) Yes; ReX (dromerly Catch) Yes; ReX (dromerly Catch) Yes; Realixay application Yes; • EN 50155 Yes; Sections 4, 5 and 12; no further agreements apply; T1, Category 1, Class A/B; EN 50155; 2007 (see SIOS entry 100759085) Ambient conditions • Ambient temperature during operation • • min. -40 °C; = Tmin • min. -40 °C;	Hardware interrupt	No	
Potential separation Protential separation diptal inputs • between the channels in groups of • between the channels and backplane bus Isolation tested with 5000 V DC Standards, approvals, certificates CC mark Yes U, approval Yes RAM Yes RAM Yes EAC (tornerly Cost R) Yes Railway application Yes • EN 50155 Class AU, EN 50155:2007 (see SIOS entry 109755985) Ambient temperature during operation • of "C; = Tmin • min. -40 "C; = Tmin • max. 70 "C Ambient temperature during storage/transportation • min. • min. -40 "C; = Tmin • max. 70 "C Altitude during operation relating to sea level 5000 m • Installation altitude above sea level, max. 5000 m • Installation altitude above sea level, max. 1140 hPa 795 hPa (+1000 m +2000 m)// Tmin (Tmax 20 K) fa BPa 650 hPa (+23 500 m +3 500 m) Resistance 100 %; RH ind. condensation/fitos (no commissioning under condensation relating basel sevol then	Diagnostics indication LED		
Potential separation digital inputs No • between the channels in groups of • between the channels and backplane bus Yes; Optocoupler Isolation Standards, approvals, certificates CE mark Yes; CE mark Yes; RCM (formerly C-TICK) Yes RCA (formerly C-TICK) Yes RCA (formerly C-TICK) Yes REAR (formerly C-TICK) Yes REAR (formerly C-TICK) Yes Relativas application Yes; Sections 4, 5 and 12; no further agreements apply; T1; Category 1, Catas V/B, EN 50155:2007 (see SIOS entry 109755985) Ambient conditions	 Status indicator digital input (green) 	Yes	
• between the channels No • between the channels and backplane bus Yes; Optocoupler Isolation 500 V DC Standards, approvals, certificates CE mark U.approval Yes; File E29877 RCM (formerly C-TICK) Yes VL approval Yes CE mark Yes CE mark Yes CE mark Yes CA proval Yes Relay application Yes EAC (formerly Gost-R) Yes EAC (formerly Gost-R) Yes EAC (formerly Gost-R) Yes Relay application - • EN 50155 Yes: Sections 4, 5 and 12; no further agreements apply; T1, Category 1, Class A/B, EN 50155: 2007 (see SLOS entry 1097559485) Ambient temperature during operation - • min. -40 °C; = Tmax; 60 °C @ UL/cUL, ATEX and FM use Ambient temperature during to sea level - • Installation relating to sea level - • Installation intitude above sea level, max. 5 000 m • Installetion integer advances according to EN 60721-33 - • Autional titude subotaparely active substances according to EN 60721-33 <td>Potential separation</td> <td></td>	Potential separation		
between the channels, in groups of 16 between the channels and backplane bus Yes; Optocupler Isolation Isolation tested with 500 V DC Standards, approvals, cortificates CE mark Yes UL approval Yes; File E239877 RCM (formerly C-TICK) Yes KC approval Yes; File E239877 RCM (formerly C-TICK) Yes EAC (formerly Gos-R) Yes Railway application • EN 50155 C (as ArB, EN 50155.2007 (see SICG) entry 109765985) Anbient conditions Anbient conditions • min. 40 °C; = Tmax; 60 °C @ UL/cUL, ATEX and FM use Ambient temperature during storage/transportation • min. 40 °C; = Tmax; 60 °C @ UL/cUL, ATEX and FM use Ambient temperature during storage/transportation • min. 40 °C; = Tmax; 60 °C @ UL/cUL, ATEX and FM use Ambient alt temperature-barometric pressure- attitude • Installation altitude above sea level, max, Ambient air temperature-barometric pressure- attitude • Use in stationary industrial systems • Use in stationary industrial systems • Use in operation tested in accordance with IEC 60068-238, max. Resistance Use on land craft, rail vehicles and special-purpose vehicles • Use in dationary active substances according to EN 60721-33 Use on land craft, rail vehicles and special-purpose vehicles • Ten Chancily active substances according to EN 60721-35 Use on indicative substances according to EN 60721-35 Use on shipkid sea • Tex (Class 582 mold, fungus and dry rot spores (with the exception of funan; Class 583 on request Yes; Class 563 CG3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (Severify degree 3);* Yes; Class 563 CG3 (RH < 75 %) incl. salt spray acc. to EN 50155 (ST2);* Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (Severify degree 3);* Yes; Class 563 CG3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (Severify degree 3);* Yes; Class 563 CG3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (Severify degree 3);* Yes; Class 563 CG3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (Se	Potential separation digital inputs		
• between the channels and backplane bus Yes; Optocoupler Isolation tested with 500 V DC Standards, approvals, certificates	 between the channels 	No	
Isolation Isolation tested with 500 V DC Standards, approvals, certificates E CE mark Yes; File E239877 RCM (formerly C-TICK) Yes RCM (formerly C-TICK) Yes REAK2 (formerly C-TICK) Yes; EAC (formerly C-TICK) Yes Railway application Yes; Sections 4, 5 and 12; no further agreements apply; T1, Category 1, Class AB, EN 50155: 2007 (see SIOS entry 109755985) Ambient conditions -40 °C; = Tmin Ambient temperature during operation -40 °C; = Tmin • max. 70 °C; = Tmin Ambient temperature during storage/transportation -40 °C; = Tmin • min. -40 °C; = Tmin • max. 70 °C Altitude during operation relating to sea level 5 000 m • Installation altitude above sea level, max. -40 °C • Ambient air temperature-barometric pressure- atifitude 5 000 m • Installation altitude above sea level, max. -500 M m • Ambient air temperature-barometric pressure- atifitude 100 %; RH Incl. condensation/frost (no commissioning under condensation conditions) Resistance Ves; Class 3B2 mold, fungus and dry rot spores (with the exception of furma); Class SB3 on request <td> between the channels, in groups of </td> <td>16</td>	 between the channels, in groups of 	16	
Isolation tested with 500 V DC Standards, approvals, certificates Yes CE mark Yes U, approval Yes RCM (formerly C-TICK) Yes CA approval Yes EAC (formerly Gost-R) Yes Raiway application Yes • EN 50155 Yes, Sections 4, 5 and 12; no further agreements apply; T1, Category 1, Class AB, EN 50155:2007 (see SIOS entry 109755385) Ambient conditions -40 °C; = Tmin • min. -40 °C; = Tmin • max. 70 °C Attitude during operation relating to sea level -10 °C • Installation altitude above sea level, max. -40 °C • Ambient temperature-barometric pressure-attitude 100 %; RH incl. condensation/frost (no commissioning under condensation conditions) Relative humidity 100 %; RH incl. condensation/frost (no commissioning under condensation conditions) Resistance Ves; Class 324 incl, sand, dust, * Use in stationary industrial systems - to biologically active substances according to EN 60721-33 Use on chanically active substances according to EN 60721-33 Yes; Class 324 incl, sand, dust, * Wes: Class S63 incl, sand, dust, * Yes; Class S63 incl, sand, dust, * <td< td=""><td> between the channels and backplane bus </td><td>Yes; Optocoupler</td></td<>	 between the channels and backplane bus 	Yes; Optocoupler	
Standards, approvals, certificates CE mark Yes; File 239877 RCM (formerly C-TICK) Yes; File 239877 RCM (formerly C-TICK) Yes; File 239877 RCM (formerly C-TICK) Yes Relatives, approval Yes; Sections 4, 5 and 12; no further agreements apply: T1, Category 1, Class AB, EN 50155:2007 (see SIOS entry 109755965) Anbient conditions -40 °C; = Tmin Ambient temperature during operation -40 °C; = Tmin • min. -40 °C; = Tmin • min. -40 °C • min. -40 °C • min. -40 °C • Installation altitude above sea level, max. 5 000 m • Installation altitude above sea level, max. 5 000 m • Installation altitude above sea level, max. 5 000 m • Installation altitude above sea level, max. 5 000 m • Installation altitude above sea level, max. 5 000 m • Installation altitude above sea level, max. 5 000 m • Installation altitude above sea level, max. 5 000 m • Installation altitude above sea level, max. 5 000 m • Installation altitude above sea level, max. 5 000 m <	Isolation		
CE mark Yes UL approval Yes; File E239877 RCM (formerly C-TICK) Yes KC approval Yes EAC (formerly Cost-R) Yes Railway application Yes e N 50155 Yes; Sections 4, 5 and 12; no further agreements apply; T1, Category 1, Class A/B, EN 50155:2007 (see SIOS entry 109755985) Ambient conditions	Isolation tested with	500 V DC	
UL approval Yes; File E39877 RCM (formerly C-TICK) Yes KC approval Yes EAC (formerly Cost-R) Yes Railway application Yes; Sections 4, 5 and 12; no further agreements apply; T1, Category 1, Class A/B, EN 50155:2007 (see SIOS entry 109755985) Ambient conditions	Standards, approvals, certificates		
RCM (formerly C-TICK) Yes RC approval Yes RCA (formerly Cost-R) Yes Railway application Yes • EN 50155 Yes: Sections 4, 5 and 12; no further agreements apply; T1, Category 1, Class A/B, EN 50155:2007 (see SIOS entry 109755985) Ambient temperature during operation • min. • min. -40 °C; = Tmax; 60 °C @ UL/CUL, ATEX and FM use Ambient temperature during storage/transportation • more. • min. -40 °C • max. 70 °C Altitude during operation relating to sea level • Installation altitude above sea level (max. • Installation altitude above sea level (max. 5 000 m • Installation altitude above sea level (max. 5 000 m • With condensation, tested in accordance with IEC 100 %; RH incl. condensation/frost (no commissioning under condensation conditions) Resistance Use in stationary industrial systems - to biologically active substances according to EN 607213-3 Use on tall craft, rail vehicles and special-purpose vehicles Yes; Class 322 mold, fungus and dry rot spores (with the exception of fauna); Class 383 on request - to chemically active substances according to EN 60721-3-3 Yes; Class 352 mold, fungus and dry rot spores (with the exception of fauna); Class 353 incl. sand, dust, *	CE mark	Yes	
KC approval Yes EAC (formerly Gost-R) Yes Railway application • EN 50155 Ambient conditions Yes; Sections 4, 5 and 12; no further agreements apply; T1, Category 1, Class AB, EN 50155:2007 (see SIOS entry 109755985) Ambient temperature during operation • inin. • max. 70 °C; = Tmin • max. 70 °C Antitude during operation relating to sea level • on °C @ UL/cUL, ATEX and FM use • Installation altitude above sea level, max. • 40 °C • Installation altitude above sea level, max. • Tmin Tmax at 1 140 hPa 795 hPa (-1 000 m +2 000 m) // Tmin (Tmax -20 K) at 658 hPa (+2 000 m +3 000 m) // Tmin (Tmax -20 K) at 658 hPa (+2 000 m +3 000 m) // Tmin (Tmax -20 K) at 658 hPa (+2 000 m +5 000 m) • Installation altitude • (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) • Installation altitude (Tmax -20 K) at 658 hPa (-2 000 m +5 000 m) • With condensation, tested in accordance with IEC fo0068-2-38, max. fo00 %, FH incl. condensation/frost (no commissioning under condensation conditions) Resistance Use in stationary industrial systems - to chemically active substances according to EN 60721-3-3 - to nechanically active substances according to EN 60721-3-5 Yes; Class 352 mold, fungus and dry rot spo	UL approval	Yes; File E239877	
EAC (formerly Gost-R) Yes Railway application Yes; Sections 4, 5 and 12; no further agreements apply; T1, Category 1, Class A/B, EN 50155:2007 (see SIOS entry 109755985) Ambient conditions -40 °C; = Tmin Ambient temperature during operation -40 °C; = Tmin • min. -40 °C; = Tmin • max. 70 °C Alticute during operation relating to sea level -40 °C • inin. -40 °C • max. 70 °C Altitude during operation relating to sea level, max. 5 000 m • 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 00068-2-38, max. 5 000 m • Diologically active substances according to EN 60721-3-3 100 %; RH incl. condensation/frost (no commissioning under condensation conditions) Resistance Yes; Class 362 mold, fungus and dry rot spores (with the exception of fauna); Class 363 on request • to biologically active substances according to EN 60721-3-3 Yes; Class 362 mold, fungus and dry rot spores (with the exception of fauna); Class 363 on request • to mechanically active substances according to EN 60721-3-5 Yes; Class 563 on request • to chemically active substances accord	RCM (formerly C-TICK)	Yes	
Railway application Yes; Sections 4, 5 and 12; no further agreements apply; T1, Category 1, Class AB, EN 50155:2007 (see SIOS entry 109755985) Ambient conditions Anoient temperature during operation Ambient temperature during operation -40 °C; = Tmin min. -40 °C; = Tmin min. -40 °C inax. -40 °C Ambient temperature during storage/transportation -40 °C inax. -40 °C installation altitude above sea level, max. 5000 m • Installation altitude above sea level, max. 5000 m • With condensation, tested in accordance with IEC (Tmax -10 K) at 795 hPa 563 hPa (+2 000 m +2 000 m) // Tmin (Tmax -20 K) at 658 hPa 540 hPa (+3 500 m) • to indenation altivative substances according to • To	KC approval	Yes	
• EN 50155 Yes; Sections 4, 5 and 12; no further agreements apply; T1, Category 1, Class A/B, EN 50155:2007 (see SIOS entry 109755985) Ambient temperature during operation -40 °C; = Tmin • min. -40 °C; = Tmin • max. 70 °C; = Tmax; 60 °C @ UL/cUL, ATEX and FM use Ambient temperature during storage/transportation - • min. -40 °C • 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 - • Mithe ondensation, tested in accordance with IEC 5000 m 60068-2-38, max. 5 000 m Relative humidity 100 %; RH incl. condensation/frost (no commissioning under condensation conditions) Resistance 100 %; RH incl. condensation/frost (no commissioning under condensation conditions) Resistance Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request Use on land craft, rail vehicles and special-purpose vehicles Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); * Wes Class 5B2 mold, fungus and dry rot spores (with the exception of fauna); Class 5B3 on request	EAC (formerly Gost-R)	Yes	
Ambient conditions Ambient conditions Ambient temperature during operation • min. -40 °C; = Tmin • max. 70 °C; = Tmax; 60 °C @ UL/CUL, ATEX and FM use Ambient temperature during storage/transportation -40 °C • min. -40 °C • min. -40 °C • max. 70 °C Attitude during operation relating to sea level - • Installation altitude above sea level, max. 5000 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 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 100 %; RH incl. condensation/frost (no commissioning under condensation conditions) Resistance 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 5B2 mold, fungus and dry rot spores (with the exception of fauna); Class 5B3 on request - to chemically active substances according to EN 60721-3-5 Yes; Class 5B3 on request	Railway application		
Ambient conditions Ambient temperature during operation • min. • max. Ambient temperature during storage/transportation • min. • max. Ambient temperature during storage/transportation • min. • max. • max. • Ambient air temperature-barometric pressure- alititude during operation relating to sea level • Installation altitude above sea level, max. • Ambient air temperature-barometric pressure- alititude • Installation altitude • Mit condensation, tested in accordance with IEC 60068-2-38, max. • Obiologically active substances according to EN 60721-3-3 • to chemically active substances according to EN 60721-3-3 • to biologically active substances according to EN 60721-3-5 • to biologically ac	• EN 50155		
 min. max. Mobient temperature during storage/transportation min. Min. Max. Max. Mobient temperature during storage/transportation max. Mobient temperature during storage/transportation max. Mobient air temperature-barometric pressure- alitude Installation altitude above sea level, max. Ambient air temperature-barometric pressure- alitude Installation altitude above sea level, max. Ambient air temperature-barometric pressure- alitude With condensation, tested in accordance with IEC 60068-2-38, max. Resistance Wuth condensation, tested in accordance with IEC 60068-2-38, max. To biologically active substances according to EN 60721-3-3 to chemically active substances according to EN 60721-3-3 Use on land craft, rail vehicles and special-purpose vehictes to belogically active substances according to EN 60721-3-5 Use on land craft, rail vehicles and special-purpose vehictes to chemically active substances according to EN 60721-3-5 Use on land craft, rail vehicles and special-purpose vehictes to chemically active substances according to EN 60721-3-5 Use on land craft, rail vehicles and special-purpose vehictes to chemically active substances according to EN 60721-3-5 Use on ships/at sea to chemically active substances according to EN 60721-3-5 Use on ships/at sea to chemically active substances according to EN 60721-3-5 Use on ships/at sea to chemically active substances according to EN 60721-3-5 Use on ships/at sea to chemically active substances according to EN 60721-3-5 Use on ships/at sea to chemically active substan	Ambient conditions		
 min. max. Mobient temperature during storage/transportation min. Mobient temperature during storage/transportation min. Mobient temperature during storage/transportation max. Mobient temperature during storage/transportation max. Ambient air temperature-barometric pressure- alitude Installation altitude above sea level, max. Ambient air temperature-barometric pressure- alitude Installation altitude above sea level, max. Ambient air temperature-barometric pressure- alitude Installation altitude above sea level, max. Ambient air temperature-barometric pressure- alitude Installation altitude above sea level, max. Ambient air temperature-barometric pressure- alitude Installation altitude above sea level, max. Installation altitude above sea level, max. Installation altitude above sea level, max. Installation altitude With condensation, tested in accordance with IEC 60068-2-38, max. To biologically active substances according to EN 60721-3-3 In to biologically active substances according to EN 60721-3-3 In to chemically active substances according to EN 60721-3-5 In to chemically active substances according to EN 60721-3-5 Ves; Class 5B2 mold, fungus and dry rot spores (with the exception of fauna); Class 5B3 on request Yes; Class 5C3 (RH < 75 %) incl. salt spray acc. to EN 50155 (ST2); * Yes; Class 6C2 mold and fungal spores (excluding fauna); Class 6B3 on request Yes; Class 6C3 (RH < 75 %	Ambient temperature during operation		
Ambient temperature during storage/transportation -40 °C • mix. 70 °C Altitude during operation relating to sea level, max. 5 000 m • Installation altitude above sea level, max. 5 000 m • Ambient air temperature-barometric pressure- altitude 5 000 m • Ambient air temperature-barometric pressure- altitude 5 000 m • Multicode controls 5 000 m • Relative humidity 5 000 m • With condensation, tested in accordance with IEC 60066-2-38, max. 5 000 m • No biologically active substances according to EN 60721-3-3 100 %; RH incl. condensation/frost (no commissioning under condensation conditions) • 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 3B4 on request • to chemically active substances according to EN 60721-3-3 Yes; Class 5B2 mold, fungus and dry rot spores (with the exception of fauna); Class 5B3 on request • to chemically active substances according to EN 60721-3-5 Yes; Class 5B2 mold, fungus and dry rot spores (with the exception of fauna); Class 5B3 on request • to chemically active substances according to EN 60721-3-5 Yes; Class 5B2 mold, fungus and dry rot spores (with the exception of fauna); Class 5B3 on request • to chemically active substances according to EN 60721-3-5 Yes; Class 5B2 mold, fu		-40 °C; = Tmin	
 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 Installation altitude above sea level, max. Ambient air temperature-barometric pressure- altitude Trmin Trmax at 1 140 hPa 795 hPa (-1 000 m +2 000 m) // Tmin (Trmax - 10 K) at 795 hPa 658 hPa (+2 000 m +3 500 m) // Tmin (Trmax - 20 K) at 658 hPa (-3 000 m +3 500 m) // Tmin (Trmax - 20 K) at 658 hPa (-3 000 m +3 500 m) // Tmin (Trmax - 20 K) at 658 hPa (-3 000 m +3 000 m) Relative humidity With condensation, tested in accordance with IEC 60068-2-38, max. Boodes-2-38, max. Weis tationary industrial systems to chemically active substances according to EN 60721-3-3 Use on land craft, rail vehicles and special-purpose vehicles - to chemically active substances according to EN 60721-3-3 Use on land craft, rail vehicles and special-purpose vehicles - to chemically active substances according to EN 60721-3-5 Use on land craft, rail vehicles and special-purpose vehicles - to chemically active substances according to EN 60721-3-5 Ves; Class 5B2 mold, fungus and dry rot spores (with the exception of fauna); Class 5B3 on request - to chemically active substances according to EN 60721-3-5 Use on ships/at sea - to biologically active substances according to EN 60721-3-5 Use on ships/at sea - to chemically active substances according to EN 60721-3-6 - to chemically active substances according to EN 60721-3-6 - to chemically active substances according to EN 60721-3-6 - to chemically active substances according to EN 60721-3-6	• max.	70 °C; = Tmax; 60 °C @ UL/cUL, ATEX and FM use	
• max. 70 °C Altitude during operation relating to sea level • • Installation attitude above sea level, max. • Ambient air temperature-barometric pressure- altitude 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 580 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 100 %; RH incl. condensation, function conditions) Use in stationary industrial systems 100 %; RH incl. condensation conditions) - 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); * Use on land craft, rail vehicles and special-purpose vehicles Yes; Class 5B2 mold, fungus and dry rot spores (with the exception of fauna); Class 5B3 on request - to chemically active substances according to EN 60721-3-5 Yes; Class 5C3 (RH < 75 %) incl. salt spray acc. to EN 50155 (ST2); *	Ambient temperature during storage/transportation		
Altitude during operation relating to sea level Installation altitude above sea level, max. Ambient air temperature-barometric pressure- altitude Ambient air temperature-barometric pressure- altitude Mith condensation, tested in accordance with IEC 60068-2-38, max. With condensation, tested in accordance with IEC 60068-2-38, max. Tima - 10 K) at 795 hPa (-1 000 m +2 000 m) // Tmin (Tmax - 10 K) at 795 hPa 540 hPa (+3 500 m +5 000 m) Relative humidity With condensation, tested in accordance with IEC 60068-2-38, max. To biologically active substances according to EN 60721-3-3 To chemically active substances according to EN 60721-3-3 To mechanically active substances according to EN 60721-3-3 Use on land craft, rail vehicles and special-purpose vehicles To biologically active substances according to EN 60721-3-5 Use on ships/at sea To mechanically active substances according to EN 60721-3-5 Ves; Class 5B2 mold, fungus and dry rot spores (with the exception of fauna); Class 5B3 on request Yes; Class 5B2 mold, fungus and dry rot spores (with the exception of fauna); Class 5B3 on request Yes; Class 5B3 incl. sand, dust; * Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request Yes; Class 6C3 (RH < 75 %) incl. salt	● min.	-40 °C	
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 Ambient air temperature-barometric pressure- altitude 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 (+2 000 m +3 500 m) // Tmin (Tmax -20 K) at 658 hPa 540 hPa (+2 000 m +3 500 m) // Tmin (Tmax -20 K) at 658 hPa 540 hPa (+2 000 m +3 500 m) // Tmin (Tmax -20 K) at 658 hPa 540 hPa (+2 000 m +3 000 m) Relative humidity With condensation, tested in accordance with IEC 60068-2-38, max. With condensation tested in accordance with IEC 60068-2-38, max. Ito biologically active substances according to EN 60721-3-3 To chemically active substances according to EN 60721-3-3 To mechanically active substances according to EN 60721-3-3 Use on land craft, rail vehicles and special-purpose vehicles To biologically active substances according to EN 60721-3-5 To mechanically active substances according to EN 60721-3-6 To biologically active substance	Altitude during operation relating to sea level		
altitude (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 +3 500 m) // Tmin (Tmax -20 K) at 658 hPa 540 hPa (+3 500 m +3 500 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 100 %; RH incl. condensation/frost (no commissioning under condensation conditions) Ves 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 of fauna); Class 3B3 on request - to mechanically 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); *	 Installation altitude above sea level, 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 Use in stationary industrial systems to biologically active substances according to EN 60721-3-3 to mechanically active substances according to EN 60721-3-5 to biologically active substances according to EN 60721-3-5 to mechanically active substances according to EN 60721-3-5 to mechanically active substances according to EN 60721-3-5 to mechanically active substances according to EN 60721-3-5 to biologically active substances according to EN 60721-3-5 to mechanically active substances according to EN 60721-3-5 to mechanically active substances according to EN 60721-3-5 to biologically active substances according to EN 60721-3-5 to biologically active substances according to EN 60721-3-6 to biologically active substances according to EN 60721-3-6		(Tmax - 10 K) at 795 hPa 658 hPa (+2 000 m +3 500 m) // Tmin	
60068-2-38, max. condensation conditions) Resistance 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 to mechanically active substances according to EN 60721-3-3 Ves; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	·		
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EN 60721-3-3(severity degree 3); *— to mechanically active substances according to EN 60721-3-3Yes; Class 3S4 incl. sand, dust, *Use on land craft, rail vehicles and special-purpose vehiclesYes; Class 5B2 mold, fungus and dry rot spores (with the exception of fauna); Class 5B3 on request— to biologically active substances according to EN 60721-3-5Yes; Class 5C3 (RH < 75 %) incl. salt spray acc. to EN 50155 (ST2); *	EN 60721-3-3	fauna); Class 3B3 on request	
EN 60721-3-3 Use on land craft, rail vehicles and special-purpose vehicles — to biologically active substances according to EN 60721-3-5 Yes; Class 5B2 mold, fungus and dry rot spores (with the exception of fauna); Class 5B3 on request — to chemically active substances according to EN 60721-3-5 Yes; Class 5C3 (RH < 75 %) incl. salt spray acc. to EN 50155 (ST2); *			
— to biologically active substances according to EN 60721-3-5Yes; Class 5B2 mold, fungus and dry rot spores (with the exception of fauna); Class 5B3 on request— to chemically active substances according to EN 60721-3-5Yes; Class 5C3 (RH < 75 %) incl. salt spray acc. to EN 50155 (ST2); * Yes; Class 5S3 incl. sand, dust; *Use on ships/at seaYes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request— 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		Yes; Class 3S4 incl. sand, dust, *	
EN 60721-3-5fauna); Class 5B3 on request— to chemically active substances according to EN 60721-3-5Yes; Class 5C3 (RH < 75 %) incl. salt spray acc. to EN 50155 (ST2); * Yes; Class 5S3 incl. sand, dust; *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 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	Use on land craft, rail vehicles and special-purpose vehicles		
EN 60721-3-5 — to mechanically active substances according to EN 60721-3-5 Yes; Class 5S3 incl. sand, dust; * 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 6B3 on request — to chemically active substances according to EN 60721-3-6 Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52			
EN 60721-3-5 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 Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52		Yes; Class 5C3 (RH < 75 %) incl. salt spray acc. to EN 50155 (ST2); *	
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EN 60721-3-6request— to chemically active substances according toYes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52	Use on ships/at sea		
 — 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- 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!
connection method / header	
required front connector	20-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	200 g

last modified:

12/18/2020 🖸