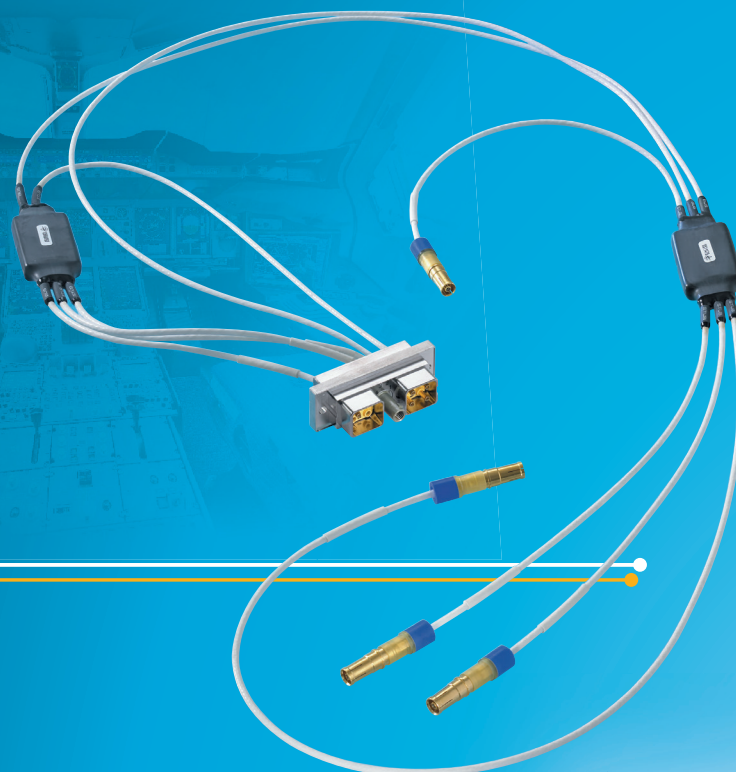




inline couplers

MIL-STD-1553
Databus products
for aeronautics applications



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THIS CATALOGUE IS INTENDED AS A GUIDE TO AID SELECTION OF AXON' PRODUCTS.
THE INFORMATION IN THIS CATALOGUE IS ACCURATE TO THE BEST OF OUR KNOWLEDGE AT TIME OF GOING TO PRINT,
HOWEVER, AXON' CANNOT BE HELD LIABLE FOR ANY ERRORS MADE AS A RESULT OF INFORMATION CONTAINED HEREIN.
CHANGES AND MODIFICATIONS CAN BE MADE TO THIS BROCHURE AT ANY TIME WITHOUT PRIOR NOTICE.

INLINE couplers

AXON' inline couplers for MIL-STD-1553 databus networks are the best solution for weight saving.

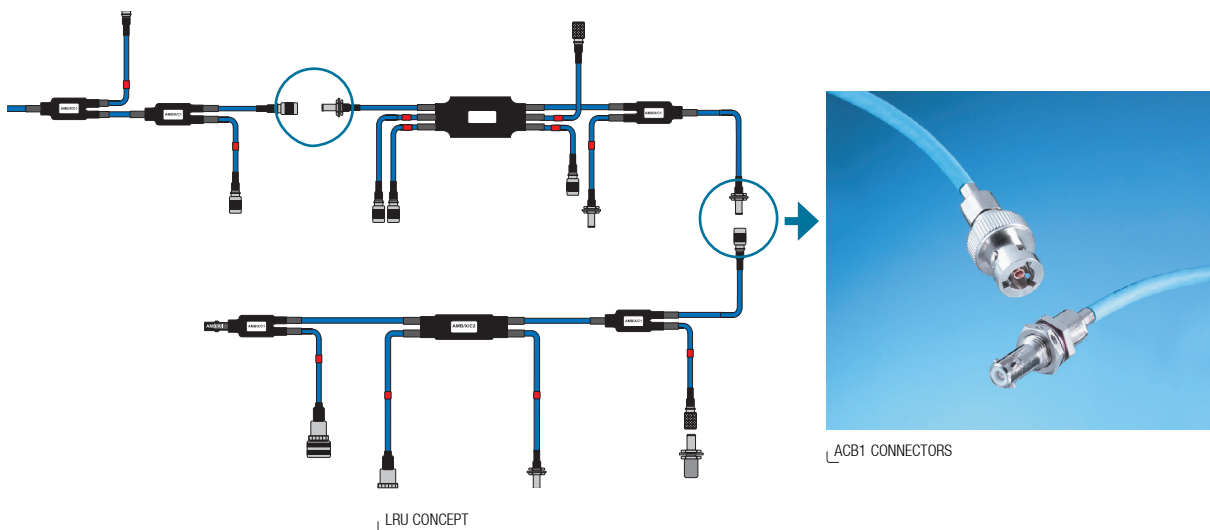
Advantages

- › Excellent weight /dimensions and price compromise.
- › Weight saving solution.
- › In line couplers are a well known and reliable technology.
- › Harnesses made with inline couplers can be installed with other electrical harnesses.
- › Inline couplers are dedicated to networks with a frozen design.
- › Supplied MIL-STD-1553B & SAE AS 4115 fully tested and guaranteed.

However the LRU concept (Line Replaceable Unit) gives more flexibility to inline couplers.

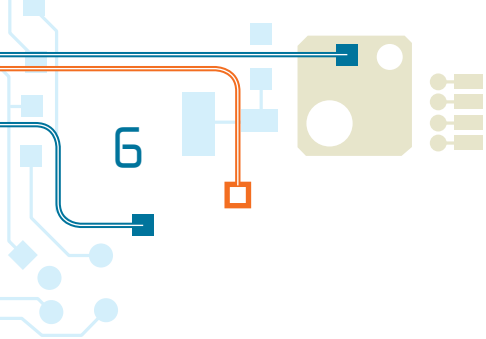
In order to make the routing easier, the network can be cut in databus sub-assemblies called Line Replaceable Units by couples of triaxial databus connectors (ACB1 connectors or others).

This makes the maintenance and handling easier.



ACB1 CONNECTORS

LRU CONCEPT

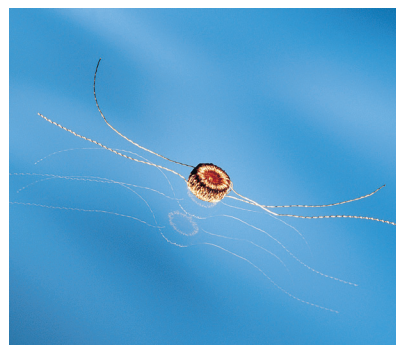


Different versions

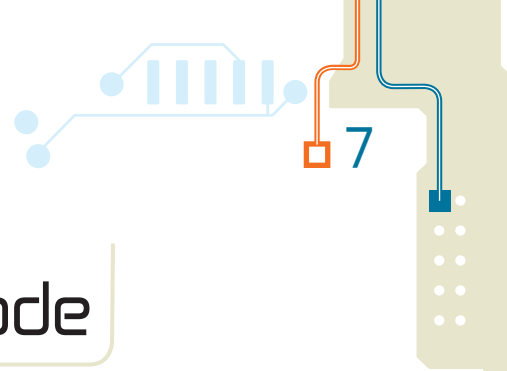
- › Aeronautic couplers designed according to EN3567 (from 1 to 8 stubs).
- › EFA couplers qualified according to SPE-J-403-A-0070 (from 1 to 4 stubs).
- › Space couplers (from 1 to 4 stubs) – please refer to our space brochure.
- › Inline couplers with terminators (TR and TL, see page 17) are available from 1 to 8 stubs.



INLINE COUPLERS



HIGH PERFORMANCE AND SMALL SIZED TRANSFORMERS



Inline coupler identification code

AMB/ A - C_x - XX - XX ^ XX - XX

AXON' MICROBUS

AERONAUTICS VERSION **A**
 EUROFIGHTER VERSION **E**
 SPACE VERSION **S**

- C1** : 1 WAY INLINE COUPLER with bus lines on opposite sides of the coupler
- C11** : 1 WAY INLINE COUPLER with bus lines on same side of the coupler
- C2** : 2 WAY INLINE COUPLER with bus lines on opposite sides of the coupler
- C21** : 2 WAY INLINE COUPLER with bus lines on same side of the coupler
- C3** : 3 WAY INLINE COUPLER with bus lines on opposite sides of the coupler
- C31** : 3 WAY INLINE COUPLER with bus lines on same side of the coupler
- C4** : 4 WAY INLINE COUPLER with bus lines on opposite sides of the coupler
- C41** : 4 WAY INLINE COUPLER with bus lines on same side of the coupler
- C5** : 5 WAY INLINE COUPLER with bus lines on opposite sides of the coupler
- C6** : 6 WAY INLINE COUPLER with bus lines on opposite sides of the coupler
- C7** : 7 WAY INLINE COUPLER with bus lines on opposite sides of the coupler
- C8** : 8 WAY INLINE COUPLER with bus lines on opposite sides of the coupler

CABLE REFERENCES

(See cable construction page 7)

- 10** : TWINAX BUS 10 AWG 24 SB [single braid] according to MIL-C17/176-00002 **A**
- 20** = TWINAX BUS 20 AWG 24 SB [single braid] accord. to pr EN 3375-003 **A**
- 21** = TWINAX BUS 21 AWG 24 DB [double braid] accord. to pr EN 3375-004 **A**
- 22** = TWINAX BUS 22 AWG 24 HI [high immunity] accord. to pr EN 3375-005 **A**
- 31** = TWINAX BUS 31 AWG 24 DB [double braid] according to PAN6421 **E**
- 40** = TWINAX BUS 40 AWG 24 SB [single braid] according to SSQ 21655 **S**
- 41** = TWINAX BUS 41 AWG 24 DB [double braid] **S**
- 43** = TWINAX BUS 43 AWG 26 SB [single braid] **S**
- 44** = TWINAX BUS 44 AWG 26 DB [double braid] **S**
- 45** = TWINAX BUS 45 AWG 22 SB [single braid] according to SSQ 21655 **S**
- 60** = TWINAX BUS 60 AWG 24 SB [single braid] **E A**
- 61** = TWINAX BUS 61 AWG 24 DB [double braid] **E A**
- 70** = TWINAX BUS 70 AWG 26 SB [single braid] **A**
- 71** = TWINAX BUS 71 AWG 26 DB [double braid] according to ECS 0700 **A**
- 72** = TWINAX BUS 72 AWG 26 HI [high immunity] **A**

CABLE LENGTH

(in meters)

COLOUR OF THE BUS LINE

H = blue L = white

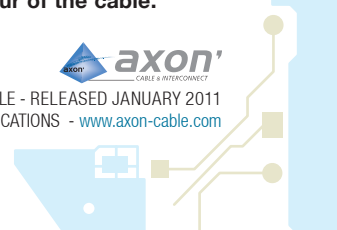
COLOUR OF THE STUB LINE

H = blue HS = blue with black stripes
 L = white LS = white with blue stripes

INTEGRATED TERMINATOR

TL = Terminator on left side of coupler TT = Terminator on both sides
 TR = Terminator on right side of coupler = No terminator

ATTENTION : please see the technical data sheets to verify the compatibility between the coupler version, cable type and cable colour. Verify also the existence of the coupler and the colour of the cable.



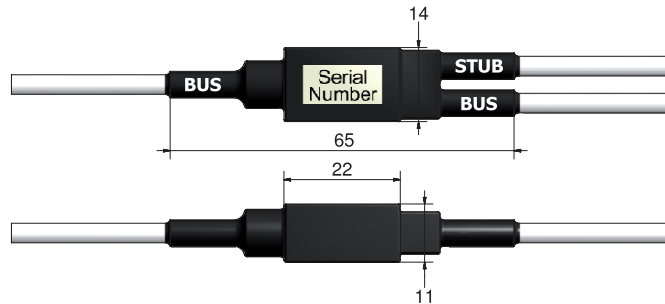
1 way inline coupler

SPECIFICATIONS

EN 3567-003
MIL-STD-1553B
STANAG 3838
SAE AS 4115

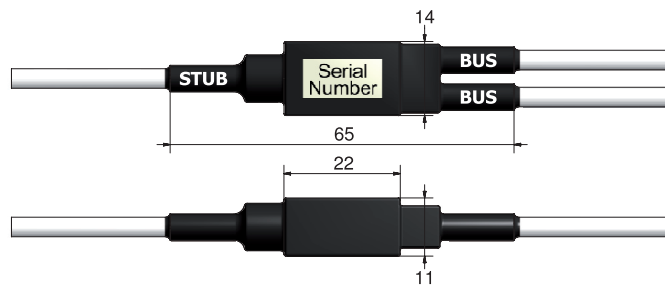
AMB / A - C1 - XX

Version with bus lines on opposite sides of the coupler.



AMB / A - C11 - XX

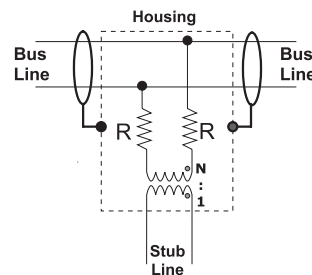
Version with bus lines on same side of the coupler.



DIMENSIONS in mm

Electrical scheme

$N = 1.41 \pm 3\%$
R = fault protection resistor
 $R = 0.75 Z_0 = 57.6 \Omega \pm 1\%$



Identification code

AMB /

A

CX

XX

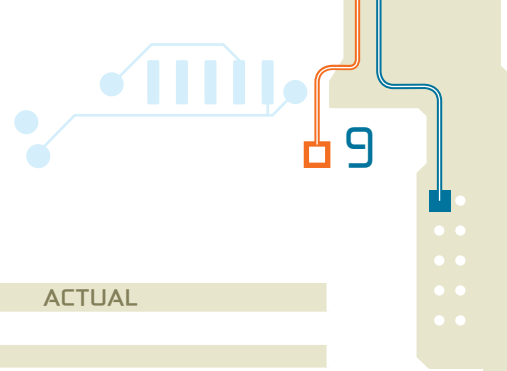
AXON' MICROBUS
(see complete reference of the coupler on Bus Standard sheet, page 14).

A : AERONAUTICS VERSION
(for space applications, please contact us)

1 : 1 WAY INLINE COUPLER
Version with bus lines on opposite sides of the coupler.
11 : 1 WAY INLINE COUPLER
Version with bus lines on same side of the coupler.

CABLE REFERENCES (see cable specifications)
10 : TWINAX BUS AWG 24 SINGLE BRAID (SB) according to MIL-C-17 /176-00002
20 : TWINAX BUS AWG 24 SINGLE BRAID (SB) according to PR EN 3375-003
21 : TWINAX BUS AWG 24 DOUBLE BRAID (DB) according to PR EN 3375-004
22 : TWINAX BUS AWG 24 DOUBLE BRAID with high immunity tape (DB/HI) according to PR EN 3375-005
70 : TWINAX BUS AWG 26 SINGLE BRAID (SB)
71 : TWINAX BUS AWG 26 DOUBLE BRAID (DB) according to ECS 0700
72 : TWINAX BUS AWG 26 DOUBLE BRAID with high immunity tape (DB/HI)
Other cables on request.

NOTE : CABLE LENGTH AND CABLE COLOUR TO BE DEFINED WHEN ORDERING
(possibility to differentiate bus and stub cable with a striped colour tape under the transparent jacket or the extrusion of a colour jacket).



Electrical characteristics

PARAMETERS	REQUIRED	ACTUAL
Nominal line impedance *	70 to 84 Ω	70 to 84 Ω
Turn ratio	1.41 \pm 3 %	1.41 \pm 3 %
CMR	< -45 dB at 1 MHz	< -50 dB at 1 MHz
Input impedance	> 3000 Ω in the frequency range (75 KHz to 1 MHz) and in the indicated temp. range (-65°C to 150°C)	> 3000 Ω
Fault protection insulation resistors in series on each bus winding connection	0.75 $Z_o \pm 2$ %	57.6 $\Omega \pm 1$ %
Insulation resistance between : - bus / stub - inner wires / shield	100 M Ω 100 M Ω	> 1 000 M Ω at 250 Vdc > 1 000 M Ω at 500 Vdc
Transfer impedance	-	plot available
Shield continuity	-	10 m Ω maximum
Shield coverage	Cable 90 % Connection 75 %	Cable 90 % minimum Connection 100 %
Dielectric withstanding strength : - between shield and inner wires - between outer insulation and shield	500 V rms 500 V rms	500 V rms 500 V rms

* Impedance : seen from the stub when the bus line is loaded with Z_o at both sides of the coupler.

Mechanical and environmental characteristics

PARAMETERS	REQUIRED	ACTUAL
Operating temperature	-65°C to +150°C	-65°C to +150°C
Weight	< 10 g	< 9 g
Axial extraction force	>100 N	>100 N
Excellent vibration and shock resistance : - random vibrations - gunfire vibrations - mechanical shocks	44 g rms, 8 hours in all directions 49 g rms 30 g half sine	44 g rms, 8 hours in all directions 49 g rms 30 g, half sine, 3 ms
Low pressure resistance	11 mbars	11 mbars
Crush resistance	500 N	500 N
Life test	1000 hours at +127°C	1000 hours at +127°C Bus operating with MIL-STD-1553B signal
Thermal test	-65°C to +150°C, 10 cycles	-65°C to +150°C, 10 cycles

Fully waterproof allowing good resistance to onboard fluids and excellent resistance to salt spray (500 hours).

Transformer characteristics

PARAMETERS	REQUIRED VALUES (MIL-STD-1553 or SAE AS 4115)	NOMINAL VALUES OR AXON' REQUIRED VALUES	
		NOMINAL VALUES	REQUIRED BY AXON' / QUALITY PLAN
Curie point	-	-	Over 195°C
Turn ratio	$\sqrt{2} \pm 3$ %	$\sqrt{2} \pm 3$ %	$\sqrt{2} \pm 3$ %
Secondary DC resistance	$R_s < 5 \Omega$	$R_s = 2 \Omega$	$R_s < 2.5 \Omega$
Insulation resistance (winding to winding)	$R_i > 100 M\Omega$	-	$R_i > 1 000 M\Omega$ with a 250 Vdc test voltage
Primary open circuit impedance (from 75 kHz to 1 MHz)	$ Z > 3 k\Omega$ on full temperature operating range	$ Z > 10 k\Omega$ at 25°C $ Z > 4.8 k\Omega$ at -65°C $ Z > 4 k\Omega$ at -85°C	$ Z \geq 9.4 k\Omega$ at 25°C (***)
Primary parallel inductance	-	$L_p = 22$ mH	$L_p \geq 20$ mH
Primary parallel capacitance	-	$C_p = 10$ pF	$C_p \leq 11.4$ pF
Inter-winding capacitance	-	$C_i = 45$ pF	-
Primary leakage inductance	-	-	$L_f \leq 6 \mu$ H
Droop (*)	$D < 20$ %	$D = 4.5$ % (**)	$D < 20$ %
Overshoot and ringing (*)	$0 < \pm 1$ V	$0 = 0.3$ V (**)	$0 < \pm 1$ V

JN 1081 approved DDP-J-403-A-0222

(*) Tested with a 250 kHz square wave of 27 Vpp with 100ns rise and fall times through a 360 ± 5 % Ω resistor.

(**) Average values taken during the JN 1081N qualification. - (***) 9.4 k Ω at 25°C guarantees 3 k Ω minimum from -65°C to 150°C



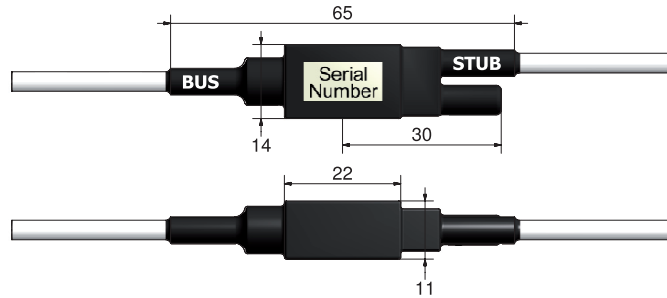
1 way inline coupler with terminator

SPECIFICATIONS

According to EN 3567
MIL-STD-1553B
STANAG 3838
SAE AS 4115

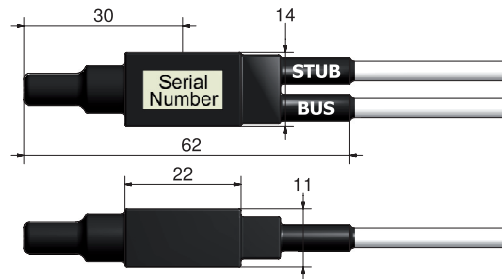
AMB / A - C1 - XX - T RIGHT 'TR'

Version with bus and stub lines on opposite sides of the coupler.



AMB / A - C1 - XX - T LEFT 'TL'

Version with bus and stub lines on same side of the coupler.

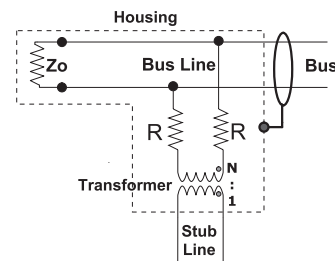


DIMENSIONS in mm

INLINE COUPLERS WITH TERMINATORS ARE AVAILABLE FROM 1 TO 8 STUBS.

Electrical scheme

$N = 1.41 \pm 3\%$
 $R = \text{fault protection resistor}$
 $R = 0.75 Z_0 = 57.6 \Omega \pm 1\%$
 $Z_0 : \text{bus terminator}$
 $Z_0 : 77 \Omega \pm 1\%$



Identification code

AMB /

**AXON'
MICROBUS**
(see complete
reference of the
coupler on Bus
Standard sheet,
page 14).

A

**A : AERONAUTICS
VERSION**
(for space
applications,
please contact us)

C1

**1 : 1 WAY INLINE
COUPLER**

XX

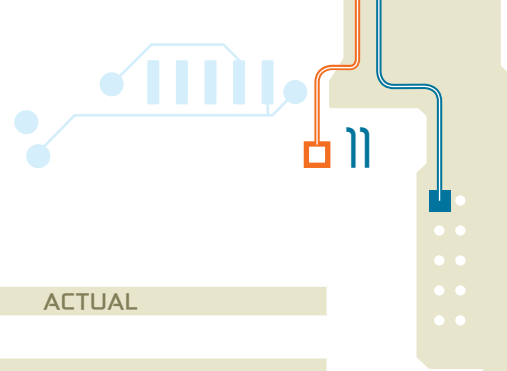
CABLE REFERENCES (see cable specifications)
10 : TWINAX BUS AWG 24 SINGLE BRAID (SB)
according to MIL-C-17 /176-00002
20 : TWINAX BUS AWG 24 SINGLE BRAID (SB)
according to PR EN 3375-003
21 : TWINAX BUS AWG 24 DOUBLE BRAID (DB)
according to PR EN 3375-004
22 : TWINAX BUS AWG 24 DOUBLE BRAID with
high immunity tape (DB/HI) according to PR EN 3375-005
70 : TWINAX BUS AWG 26 SINGLE BRAID (SB)
71 : TWINAX BUS AWG 26 DOUBLE BRAID (DB)
according to ECS 0700
72 : TWINAX BUS AWG 26 DOUBLE BRAID
with high immunity tape (DB/HI)
Other cables on request.

TX

TR : T RIGHT
Bus and stub on
opposite sides.
TL : T LEFT
Bus and stub on
same side of the
coupler

NOTE : CABLE LENGTH AND CABLE COLOUR TO BE DEFINED WHEN ORDERING

(possibility to differentiate bus and stub cable with a striped colour tape under the transparent jacket or the extrusion of a colour jacket).



Electrical characteristics

PARAMETERS	REQUIRED	ACTUAL
Nominal line impedance *	70 to 84 Ω	70 to 84 Ω
Turn ratio	1.41 \pm 3 %	1.41 \pm 3 %
CMR	< -45 dB at 1 MHz	< -50 dB at 1 MHz
Terminator impedance	77 \pm 2 %	77 \pm 1 %
Fault protection insulation resistors in series on each bus winding connection	0.75 Zo \pm 2 %	57.6 Ω \pm 1 %
Insulation resistance between : - bus / stub - inner wires / shield	100 M Ω 100 M Ω	> 1 000 M Ω at 250 Vdc > 1 000 M Ω at 500 Vdc
Transfer impedance	-	plot available
Shield continuity	-	10 m Ω maximum
Shield coverage	Cable 90 % Connection 75 %	Cable 90 % minimum Connection 100 %
Dielectric withstanding strength : - between shield and inner wires - between outer insulation and shield	500 V rms 500 V rms	500 V rms 500 V rms

* Impedance : seen from the stub when the bus line is loaded with Zo at both sides of the coupler.

Mechanical and environmental characteristics

PARAMETERS	REQUIRED	ACTUAL
Operating temperature	-65°C to +150°C	-65°C to +150°C
Weight	-	< 11 g
Axial extraction force	>100 N	>100 N
Excellent vibration and shock resistance : - random vibrations - gunfire vibrations - mechanical shocks	44 g rms, 8 hours in all directions 49 g rms 30 g half sine, 3 ns	44 g rms, 8 hours in all directions 49 g rms 30 g, half sine, 3 ms
Low pressure resistance	11 mbars	11 mbars
Crush resistance	500 N	500 N
Life test	1000 hours at +127°C	1000 hours at +127°C Bus operating with MIL-STD-1553B signal
Thermal test	-65°C to +150°C, 10 cycles	-65°C to +150°C, 10 cycles

Fully waterproof allowing good resistance to onboard fluids and excellent resistance to salt spray (500 hours).

Transformer characteristics

PARAMETERS	REQUIRED VALUES (MIL-STD-1553 or SAE AS 4115)	NOMINAL VALUES OR AXON' REQUIRED VALUES	
		NOMINAL VALUES	REQUIRED BY AXON' / QUALITY PLAN
Curie point	-	-	Over 195°C
Turn ratio	$\sqrt{2} \pm 3$ %	$\sqrt{2} \pm 3$ %	$\sqrt{2} \pm 3$ %
Secondary DC resistance	Rs < 5 Ω	Rs = 2 Ω	Rs < 2.5 Ω
Insulation resistance (winding to winding)	Ri > 100 M Ω	-	Ri > 1 000 M Ω with a 250 Vdc test voltage
Primary open circuit impedance (from 75 kHz to 1 MHz)	Z > 3 k Ω on full temperature operating range	Z > 10 k Ω at 25°C Z > 4.8 k Ω at -65°C Z > 4 k Ω at -85°C	Z \geq 9.4 k Ω at 25°C (***)
Primary parallel inductance	-	Lp = 22 mH	Lp \geq 20 mH
Primary parallel capacitance	-	Cp = 10 pF	Cp \leq 11.4 pF
Inter-winding capacitance	-	Ci = 45 pF	-
Primary leakage inductance	-	-	Lf \leq 6 μ H
Droop (*)	D < 20 %	D = 4.5 % (**)	D < 20 %
Overshoot and ringing (*)	O < \pm 1 V	O = 0.3 V (**)	O < \pm 1 V

JN 1081 approved DDP-J-403-A-0222

(*) Tested with a 250 kHz square wave of 27 Vpp with 100ns rise and fall times through a 360 \pm 5 % Ω resistor.

(**) Average values taken during the JN 1081N qualification. - (***) 9.4 k Ω at 25°C guarantees 3 k Ω minimum from -65°C to 150°C



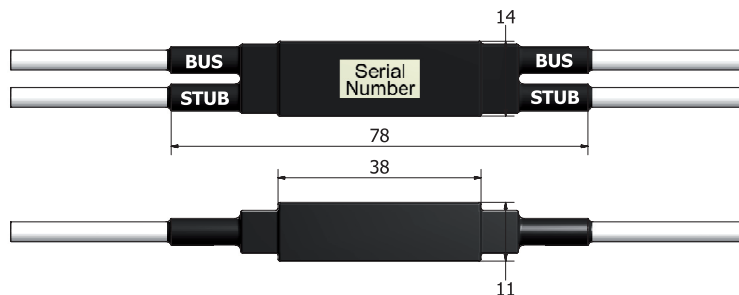
2 way inline coupler

SPECIFICATIONS

EN 3567-004
 MIL-STD-1553B
 STANAG 3838
 SAE AS 4115

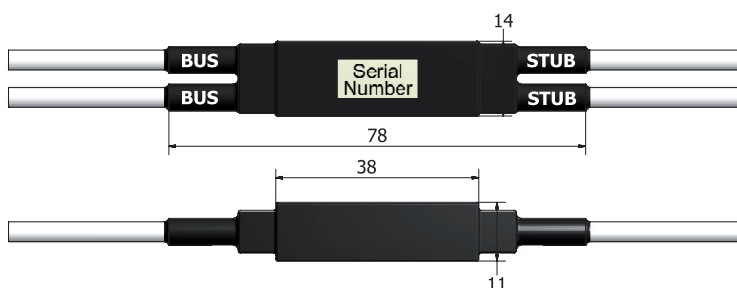
AMB / A - C2 - XX

Version with bus lines on opposite sides of the coupler.



AMB / A - C21 - XX

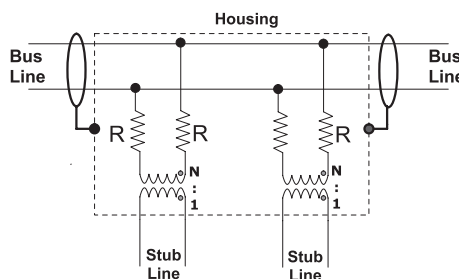
Version with bus lines on same side of the coupler.



DIMENSIONS in mm

Electrical scheme

$N = 1.41 \pm 3\%$
 $R = \text{fault protection resistor}$
 $R = 0.75 Z_0 = 57.6 \Omega \pm 1\%$



Identification code

AMB /

A

CX

XX

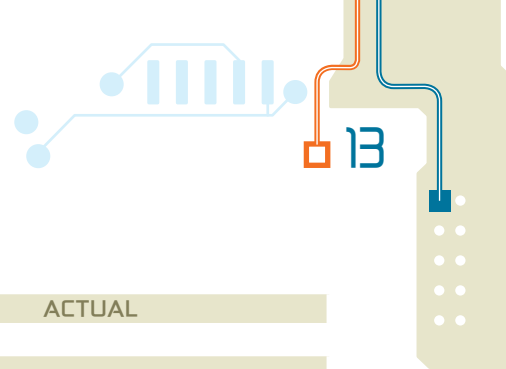
AXON' MICROBUS
 (see complete reference of the coupler on Bus Standard sheet, page 14).

A : AERONAUTICS VERSION
 (for space applications, please contact us)

2 : 2 WAY INLINE COUPLER
 Version with bus lines on opposite sides of the coupler.
21 : 2 WAY INLINE COUPLER
 Version with bus lines on same side of the coupler.

CABLE REFERENCES (see cable specifications)
10 : TWINAX BUS AWG 24 SINGLE BRAID (SB) according to MIL-C-17 /176-00002
20 : TWINAX BUS AWG 24 SINGLE BRAID (SB) according to PR EN 3375-003
21 : TWINAX BUS AWG 24 DOUBLE BRAID (DB) according to PR EN 3375-004
22 : TWINAX BUS AWG 24 DOUBLE BRAID with high immunity tape (DB/Hi) according to PR EN 3375-005
70 : TWINAX BUS AWG 26 SINGLE BRAID (SB)
71 : TWINAX BUS AWG 26 DOUBLE BRAID (DB) according to ECS 0700
72 : TWINAX BUS AWG 26 DOUBLE BRAID with high immunity tape (DB/Hi)
Other cables on request.

NOTE : CABLE LENGTH AND CABLE COLOUR TO BE DEFINED WHEN ORDERING (possibility to differentiate bus and stub cable with a striped colour tape under the transparent jacket or the extrusion of a colour jacket).



Electrical characteristics

PARAMETERS	REQUIRED	ACTUAL
Nominal line impedance *	70 to 84 Ω	70 to 84 Ω
Turn ratio	1.41 \pm 3 %	1.41 \pm 3 %
CMR	< -45 dB at 1 MHz	< -50 dB at 1 MHz
Input impedance	> 1500 Ω in the frequency range (75 KHz to 1 MHz) and in the indicated temp. range (-65°C to 150°C)	> 1500 Ω
Fault protection insulation resistors in series on each bus winding connection	0.75 $Z_o \pm 2$ %	57.6 $\Omega \pm 1$ %
Insulation resistance between : - bus / stub - inner wires / shield	100 M Ω 100 M Ω	> 1 000 M Ω at 250 Vdc > 1 000 M Ω at 500 Vdc
Transfer impedance	-	plot available
Shield continuity	-	10 m Ω maximum
Shield coverage	Cable 90 % Connection 75 %	Cable 90 % minimum Connection 100 %
Dielectric withstanding strength : - between shield and inner wires - between outer insulation and shield	500 V rms 500 V rms	500 V rms 500 V rms

* Impedance : seen from the stub when the bus line is loaded with Z_o at both sides of the coupler.

Mechanical and environmental characteristics

PARAMETERS	REQUIRED	ACTUAL
Operating temperature	-65°C to +150°C	-65°C to +150°C
Weight	< 15 g	< 12 g
Axial extraction force	>100 N	>100 N
Excellent vibration and shock resistance : - random vibrations - gunfire vibrations - mechanical shocks	44 g rms, 8 hours in all directions 49 g rms 30 g half sine	44 g rms, 8 hours in all directions 49 g rms 30 g, half sine, 3 ms
Low pressure resistance	11 mbars	11 mbars
Crush resistance	-	500 N
Life test	1000 hours at +127°C	1000 hours at +127°C Bus operating with MIL-STD-1553B signal
Thermal test	-65°C to +150°C, 10 cycles	-65°C to +150°C, 10 cycles

Fully waterproof allowing good resistance to onboard fluids and excellent resistance to salt spray (500 hours).

Transformer characteristics

PARAMETERS	REQUIRED VALUES (MIL-STD-1553 or SAE AS 4115)	NOMINAL VALUES OR AXON' REQUIRED VALUES	
		NOMINAL VALUES	REQUIRED BY AXON' / QUALITY PLAN
Curie point	-	-	Over 195°C
Turn ratio	$\sqrt{2} \pm 3$ %	$\sqrt{2} \pm 3$ %	$\sqrt{2} \pm 3$ %
Secondary DC resistance	$R_s < 5 \Omega$	$R_s = 2 \Omega$	$R_s < 2.5 \Omega$
Insulation resistance (winding to winding)	$R_i > 100 M\Omega$	-	$R_i > 1 000 M\Omega$ with a 250 Vdc test voltage
Primary open circuit impedance (from 75 kHz to 1 MHz)	$ Z > 3 k\Omega$ on full temperature operating range	$ Z > 10 k\Omega$ at 25°C $ Z > 4.8 k\Omega$ at -65°C $ Z > 4 k\Omega$ at -85°C	$ Z \geq 9.4 k\Omega$ at 25°C (***)
Primary parallel inductance	-	$L_p = 22$ mH	$L_p \geq 20$ mH
Primary parallel capacitance	-	$C_p = 10$ pF	$C_p \leq 11.4$ pF
Inter-winding capacitance	-	$C_i = 45$ pF	-
Primary leakage inductance	-	-	$L_f \leq 6 \mu$ H
Droop (*)	$D < 20$ %	$D = 4.5$ % (**)	$D < 20$ %
Overshoot and ringing (*)	$0 < \pm 1$ V	$0 = 0.3$ V (**)	$0 < \pm 1$ V

JN 1081 approved DDP-J-403-A-0222

(*) Tested with a 250 kHz square wave of 27 Vpp with 100ns rise and fall times through a $360 \pm 5 \Omega$ resistor.

(**) Average values taken during the JN 1081N qualification. - (***) 9.4 k Ω at 25°C guarantees 3 k Ω minimum from -65°C to 150°C

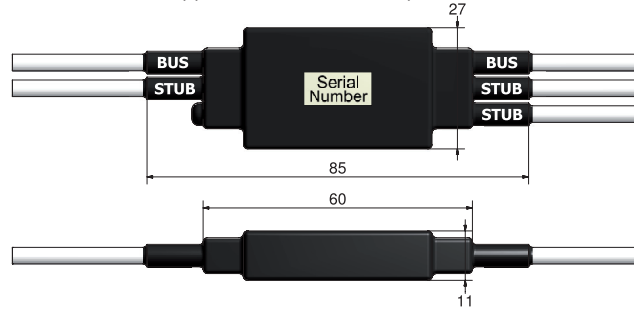
3 way inline coupler

SPECIFICATIONS

According to EN 3567
MIL-STD-1553B
STANAG 3838
SAE AS 4115

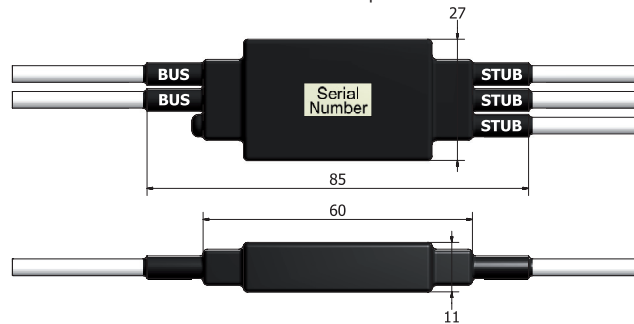
AMB / A - C3 - XX

Version with bus lines on opposite sides of the coupler.



AMB / A - C31 - XX

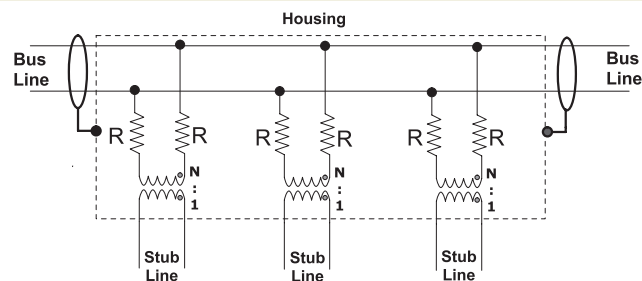
Version with bus lines on same side of the coupler.



DIMENSIONS in mm

Electrical scheme

$N = 1.41 \pm 3\%$
 $R = \text{fault protection resistor}$
 $R = 0.75 Z_0 = 57.6 \Omega \pm 1\%$



Identification code

AMB /

**AXON'
MICROBUS**
(see complete
reference of the
coupler on Bus
Standard sheet,
page 14).

A

**A : AERONAUTICS
VERSION**
(for space
applications,
please contact us)

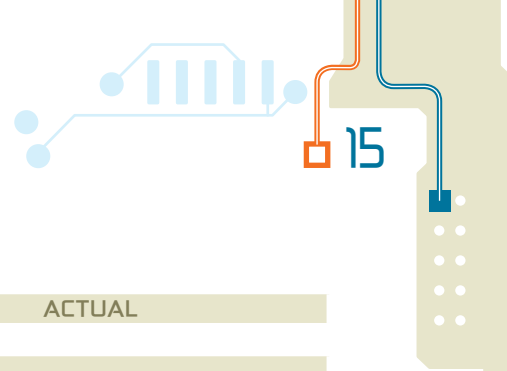
CX

3 : 3 WAY INLINE COUPLER
Version with bus lines on
opposite sides of the coupler.
31 : 3 WAY INLINE COUPLER
Version with bus lines on
same side of the coupler.

XX

CABLE REFERENCES (see cable specifications)
10 : TWINAX BUS AWG 24 SINGLE BRAID (SB)
according to MIL-C-17 /176-00002
20 : TWINAX BUS AWG 24 SINGLE BRAID (SB)
according to PR EN 3375-003
21 : TWINAX BUS AWG 24 DOUBLE BRAID (DB)
according to PR EN 3375-004
22 : TWINAX BUS AWG 24 DOUBLE BRAID with
high immunity tape (DB/HI) according to PR EN 3375-005
31 : TWINAX BUS AWG 24 DOUBLE BRAID (DB)
according to PAN 6421
60 : TWINAX BUS AWG 24 EXPANDED PTFE SINGLE BRAID (SB)
61 : TWINAX BUS AWG 24 EXPANDED PTFE DOUBLE BRAID (DB)
70 : TWINAX BUS AWG 26 SINGLE BRAID (SB)
71 : TWINAX BUS AWG 26 DOUBLE BRAID (DB) according to ECS 0700
72 : TWINAX BUS AWG 26 DOUBLE BRAID with high immunity
tape (DB/HI)
Other cables on request.

NOTE : CABLE LENGTH AND CABLE COLOUR TO BE DEFINED WHEN ORDERING
(possibility to differentiate bus and stub cable with a striped colour tape under the transparent jacket or the extrusion of a colour jacket).



Electrical characteristics

PARAMETERS	REQUIRED	ACTUAL
Nominal line impedance *	70 to 84 Ω	70 to 84 Ω
Turn ratio	1.41 \pm 3 %	1.41 \pm 3 %
CMR	< -45 dB at 1 MHz	< -50 dB at 1 MHz
Input impedance	> 1000 Ω in the frequency range (75 KHz to 1 MHz) and in the indicated temp. range (-65°C to 150°C)	> 1000 Ω
Fault protection insulation resistors in series on each bus winding connection	0.75 Zo \pm 2 %	57.6 $\Omega \pm$ 1 %
Insulation resistance between : - bus / stub - inner wires / shield	100 M Ω 100 M Ω	> 1 000 M Ω at 250 Vdc > 1 000 M Ω at 500 Vdc
Transfer impedance	-	plot available
Shield continuity	-	10 m Ω maximum
Shield coverage	Cable 90 % Connection 75 %	Cable 90 % minimum Connection 100 %
Dielectric withstanding strength : - between shield and inner wires - between outer insulation and shield	500 V rms 500 V rms	500 V rms 500 V rms

* Impedance : seen from the stub when the bus line is loaded with Zo at both sides of the coupler.

Mechanical and environmental characteristics

PARAMETERS	REQUIRED	ACTUAL
Operating temperature	-65°C to +150°C	-65°C to +150°C
Weight	-	< 25 g
Axial extraction force	>100 N	>100 N
Excellent vibration and shock resistance : - random vibrations - gunfire vibrations - mechanical shocks	44 g rms, 8 hours in all directions 49 g rms 30 g half sine	44 g rms, 8 hours in all directions 49 g rms 30 g, half sine, 3 ms
Low pressure resistance	11 mbars	11 mbars
Crush resistance	-	500 N
Life test	1000 hours at +127°C	1000 hours at +127°C Bus operating with MIL-STD-1553B signal
Thermal test	-65°C to +150°C, 10 cycles	-65°C to +150°C, 10 cycles

Fully waterproof allowing good resistance to onboard fluids and excellent resistance to salt spray (500 hours).

Transformer characteristics

PARAMETERS	REQUIRED VALUES (MIL-STD-1553 or SAE AS 4115)	NOMINAL VALUES OR AXON' REQUIRED VALUES	
		NOMINAL VALUES	REQUIRED BY AXON' / QUALITY PLAN
Curie point	-	-	Over 195°C
Turn ratio	$\sqrt{2} \pm 3$ %	$\sqrt{2} \pm 3$ %	$\sqrt{2} \pm 3$ %
Secondary DC resistance	Rs < 5 Ω	Rs = 2 Ω	Rs < 2.5 Ω
Insulation resistance (winding to winding)	Ri > 100 M Ω	-	Ri > 1 000 M Ω with a 250 Vdc test voltage
Primary open circuit impedance (from 75 kHz to 1 MHz)	Z > 3 k Ω on full temperature operating range	Z > 10 k Ω at 25°C Z > 4.8 k Ω at -65°C Z > 4 k Ω at -85°C	Z \geq 9.4 k Ω at 25°C (***)
Primary parallel inductance	-	Lp = 22 mH	Lp \geq 20 mH
Primary parallel capacitance	-	Cp = 10 pF	Cp \leq 11.4 pF
Inter-winding capacitance	-	Ci = 45 pF	-
Primary leakage inductance	-	-	Lf \leq 6 μ H
Droop (*)	D < 20 %	D = 4.5 % (**)	D < 20 %
Overshoot and ringing (*)	O < \pm 1 V	O = 0.3 V (**)	O < \pm 1 V

JN 1081 approved DDP-J-403-A-0222

(*) Tested with a 250 kHz square wave of 27 Vpp with 100ns rise and fall times through a 360 \pm 5 % Ω resistor.

(**) Average values taken during the JN 1081N qualification. - (***) 9.4 k Ω at 25°C guarantees 3 k Ω minimum from -65°C to 150°C



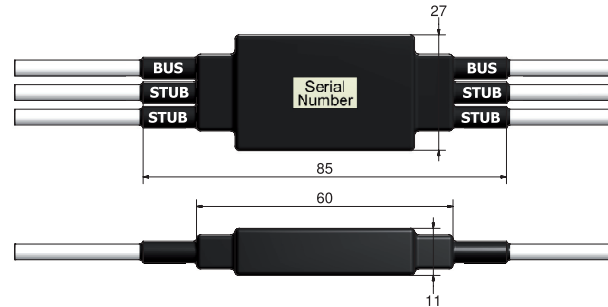
4 way inline coupler

SPECIFICATIONS

According to EN 3567
MIL-STD-1553B
STANAG 3838
SAE AS 4115

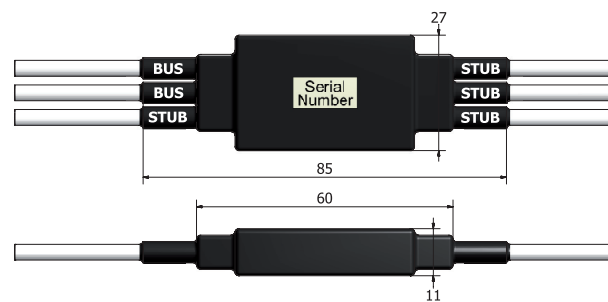
AMB / A - C4 - XX

Version with bus lines on opposite sides of the coupler.



AMB / A - C41 - XX

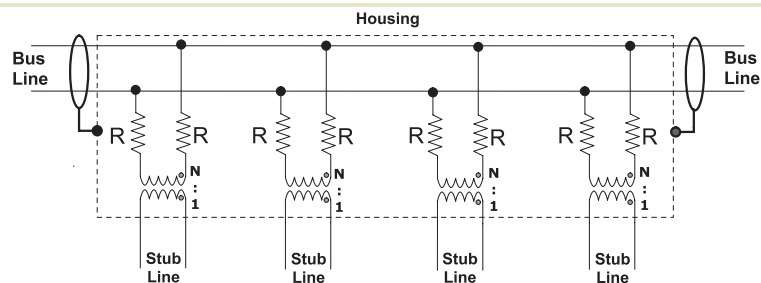
Version with bus lines on same side of the coupler.



DIMENSIONS in mm

Electrical scheme

$N = 1.41 \pm 3\%$
 $R = \text{fault protection resistor}$
 $R = 0.75 Z_0 = 57.6 \Omega \pm 1\%$



Identification code

AMB /

**AXON'
MICROBUS**
(see complete
reference of the
coupler on Bus
Standard sheet,
page 14).

A

**A : AERONAUTICS
VERSION**
(for space
applications,
please contact us)

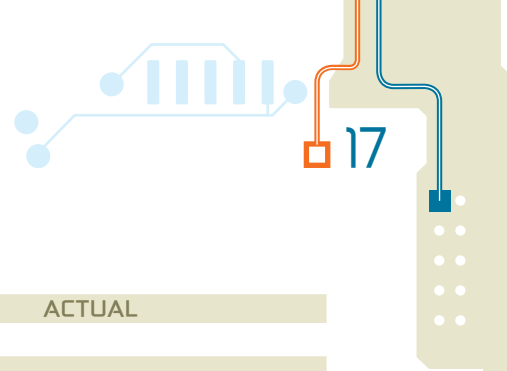
CX

4 : 4 WAY INLINE COUPLER
Version with bus lines on
opposite sides of the coupler.
41 : 4 WAY INLINE COUPLER
Version with bus lines on
same side of the coupler.

XX

CABLE REFERENCES (see cable specifications)
10 : TWINAX BUS AWG 24 SINGLE BRAID (SB)
according to MIL-C-17 /176-00002
20 : TWINAX BUS AWG 24 SINGLE BRAID (SB)
according to PR EN 3375-003
21 : TWINAX BUS AWG 24 DOUBLE BRAID (DB)
according to PR EN 3375-004
22 : TWINAX BUS AWG 24 DOUBLE BRAID with
high immunity tape (DB/HI) according to PR EN 3375-005
31 : TWINAX BUS AWG 24 DOUBLE BRAID (DB)
according to PAN 6421 - JN 1176 (see page 37)
60 : TWINAX BUS AWG 24 EXPANDED PTFE SINGLE BRAID (SB)
61 : TWINAX BUS AWG 24 EXPANDED PTFE DOUBLE BRAID (DB)
70 : TWINAX BUS AWG 26 SINGLE BRAID (SB)
71 : TWINAX BUS AWG 26 DOUBLE BRAID (DB) according to ECS 0700
72 : TWINAX BUS AWG 26 DOUBLE BRAID
with high immunity tape (DB/HI)
Other cables on request.

NOTE : CABLE LENGTH AND CABLE COLOUR TO BE DEFINED WHEN ORDERING
(possibility to differentiate bus and stub cable with a striped colour tape under the transparent jacket or the extrusion of a colour jacket).



Electrical characteristics

PARAMETERS	REQUIRED	ACTUAL
Nominal line impedance *	70 to 84 Ω	70 to 84 Ω
Turn ratio	1.41 \pm 3 %	1.41 \pm 3 %
CMR	< -45 dB at 1 MHz	< -50 dB at 1 MHz
Input impedance	> 750 Ω in the frequency range (75 KHz to 1 MHz) and in the indicated temp. range (-65°C to 150°C)	> 750 Ω
Fault protection insulation resistors in series on each bus winding connection	0.75 Zo \pm 2 %	57.6 $\Omega \pm$ 1 %
Insulation resistance between : - bus / stub - inner wires / shield	100 M Ω 100 M Ω	> 1 000 M Ω at 250 Vdc > 1 000 M Ω at 500 Vdc
Transfer impedance	-	plot available
Shield continuity	-	10 m Ω maximum
Shield coverage	Cable 90 % Connection 75 %	Cable 90 % minimum Connection 100 %
Dielectric withstanding strength : - between shield and inner wires - between outer insulation and shield	500 V rms 500 V rms	500 V rms 500 V rms

* Impedance : seen from the stub when the bus line is loaded with Zo at both sides of the coupler.

Mechanical and environmental characteristics

PARAMETERS	REQUIRED	ACTUAL
Operating temperature	-65°C to +150°C	-65°C to +150°C
Weight	-	< 25 g
Axial extraction force	>100 N	>100 N
Excellent vibration and shock resistance : - random vibrations - gunfire vibrations - mechanical shocks	44 g rms, 8 hours in all directions 49 g rms 30 g half sine	44 g rms, 8 hours in all directions 49 g rms 30 g, half sine, 3 ms
Low pressure resistance	11 mbars	11 mbars
Crush resistance	-	500 N
Life test	1000 hours at +127°C	1000 hours at +127°C Bus operating with MIL-STD-1553B signal
Thermal test	-65°C to +150°C, 10 cycles	-65°C to +150°C, 10 cycles

Fully waterproof allowing good resistance to onboard fluids and excellent resistance to salt spray (500 hours).

Transformer characteristics

PARAMETERS	REQUIRED VALUES (MIL-STD-1553 or SAE AS 4115)	NOMINAL VALUES OR AXON' REQUIRED VALUES	
		NOMINAL VALUES	REQUIRED BY AXON' / QUALITY PLAN
Curie point	-	-	Over 195°C
Turn ratio	$\sqrt{2} \pm 3$ %	$\sqrt{2} \pm 3$ %	$\sqrt{2} \pm 3$ %
Secondary DC resistance	Rs < 5 Ω	Rs = 2 Ω	Rs < 2.5 Ω
Insulation resistance (winding to winding)	Ri > 100 M Ω	-	Ri > 1 000 M Ω with a 250 Vdc test voltage
Primary open circuit impedance (from 75 kHz to 1 MHz)	Z > 3 k Ω on full temperature operating range	Z > 10 k Ω at 25°C Z > 4.8 k Ω at -65°C Z > 4 k Ω at -85°C	Z \geq 9.4 k Ω at 25°C (***)
Primary parallel inductance	-	Lp = 22 mH	Lp \geq 20 mH
Primary parallel capacitance	-	Cp = 10 pF	Cp \leq 11.4 pF
Inter-winding capacitance	-	Ci = 45 pF	-
Primary leakage inductance	-	-	Lf \leq 6 μ H
Droop (*)	D < 20 %	D = 4.5 % (**)	D < 20 %
Overshoot and ringing (*)	O < \pm 1 V	O = 0.3 V (**)	O < \pm 1 V

JN 1081 approved DDP-J-403-A-0222

(*) Tested with a 250 kHz square wave of 27 Vpp with 100ns rise and fall times through a 360 \pm 5 % Ω resistor.

(**) Average values taken during the JN 1081N qualification. - (***) 9.4 k Ω at 25°C guarantees 3 k Ω minimum from -65°C to 150°C



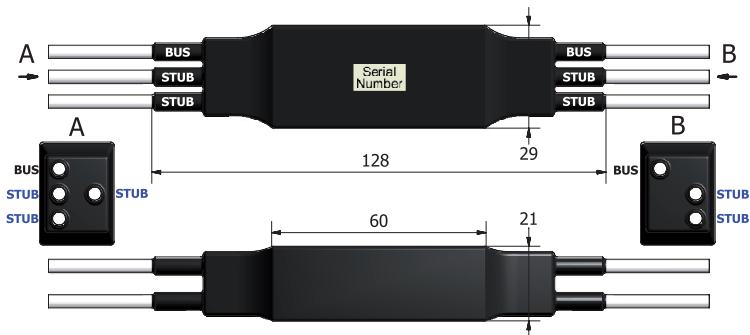
5 way inline coupler

SPECIFICATIONS

MIL-STD-1553B
STANAG 3838
SAE AS 4115

AMB / A - C5 - XX

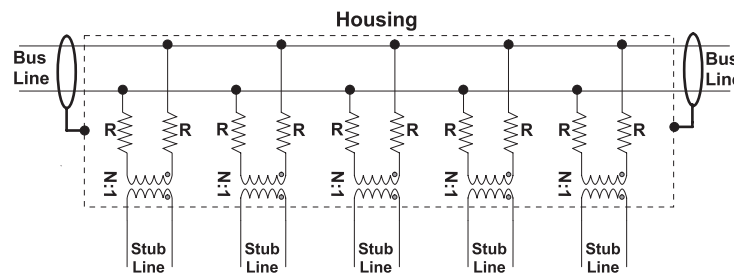
Version with bus lines on opposite sides of the coupler.



DIMENSIONS in mm

Electrical scheme

$N = 1.41 \pm 3\%$
R = fault protection resistor
 $R = 0.75 Z_0 = 57.6 \Omega \pm 1\%$



Identification code

AMB /

**AXON'
MICROBUS**
(see complete
reference of the
coupler on Bus
Standard sheet,
page 14).

A

**A : AERONAUTICS
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(for space
applications,
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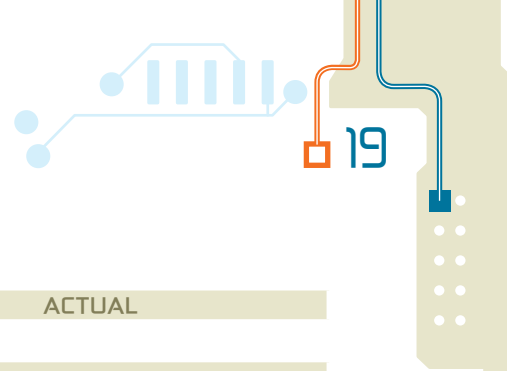
C5

5 : 5 WAY INLINE COUPLER
Version with bus lines on
opposite sides of the coupler.

XX

CABLE REFERENCES (see cable specifications)
10 : TWINAX BUS AWG 24 SINGLE BRAID (SB)
according to MIL-C-17 /176-00002
20 : TWINAX BUS AWG 24 SINGLE BRAID (SB)
according to PR EN 3375-003
21 : TWINAX BUS AWG 24 DOUBLE BRAID (DB)
according to PR EN 3375-004
22 : TWINAX BUS AWG 24 DOUBLE BRAID with
high immunity tape (DB/HI) according to PR EN 3375-005

NOTE : CABLE LENGTH AND CABLE COLOUR TO BE DEFINED WHEN ORDERING
(possibility to differentiate bus and stub cable with a striped colour tape under the transparent jacket or the extrusion of a colour jacket).



Electrical characteristics

PARAMETERS	REQUIRED	ACTUAL
Nominal line impedance *	70 to 84 Ω	70 to 84 Ω
Turn ratio	$\sqrt{2} \pm 3 \%$	$\sqrt{2} \pm 3 \%$
CMR	< -45 dB at 1 MHz	< -50 dB at 1 MHz
Input impedance	> 600 Ω in the frequency range (75 KHz to 1 MHz) and in the indicated temp. range (-65°C to 150°C)	> 600 Ω
Fault protection insulation resistors in series on each bus winding connection	0.75 $Z_o \pm 2 \%$	57.6 $\Omega \pm 1 \%$
Insulation resistance between :		
- bus / stub	-	> 1 000 M Ω at 250 Vdc
- inner wires / shield	-	> 1 000 M Ω at 500 Vdc
Shield continuity	-	10 m Ω maximum
Shield coverage	Cable 90 % Connection 75 %	Cable 90 % minimum Connection 100 %
Dielectric withstanding strength :		
- between shield and inner wires	-	500 V rms
- between outer insulation and shield	-	500 V rms

* Impedance : seen from the stub when the bus line is loaded with Z_o at both sides of the coupler.

Mechanical and environmental characteristics

PARAMETERS	PARAMETERS
Operating temperature : -65°C to +150°C	High resistance to board fluids (sealed case)
Weight : < 100 g	High resistance to salt spray (sealed case)
Axial extraction force : 100 N	MTBF available following MIL-HDBK 217 (environment and operating temperature to be specified)
Excellent vibration and shock resistance	Fully waterproof
Excellent resistance to thermal stress	
Low pressure resistance : 11 mbar	

Transformer characteristics

PARAMETERS	REQUIRED VALUES (MIL-STD-1553 or SAE AS 4115)	NOMINAL VALUES OR AXON' REQUIRED VALUES	
		NOMINAL VALUES	REQUIRED BY AXON' / QUALITY PLAN
Curie point	-	-	Over 195°C
Turn ratio	$\sqrt{2} \pm 3 \%$	$\sqrt{2} \pm 3 \%$	$\sqrt{2} \pm 3 \%$
Secondary DC resistance	$R_s < 5 \Omega$	$R_s = 2 \Omega$	$R_s < 2.5 \Omega$
Insulation resistance (winding to winding)	$R_i > 100 M\Omega$	-	$R_i > 1 000 M\Omega$ with a 250 Vdc test voltage
Primary open circuit impedance (from 75 kHz to 1 MHz)	$ Z > 3 k\Omega$ on full temperature operating range	$ Z > 10 k\Omega$ at 25°C $ Z > 4.8 k\Omega$ at -65°C $ Z > 4 k\Omega$ at -85°C	$ Z \geq 9.4 k\Omega$ at 25°C (***)
Primary parallel inductance	-	$L_p = 22 mH$	$L_p \geq 20 mH$
Primary parallel capacitance	-	$C_p = 10 pF$	$C_p \leq 11.4 pF$
Inter-winding capacitance	-	$C_i = 45 pF$	-
Primary leakage inductance	-	-	$L_f \leq 6 \mu H$
Droop (*)	$D < 20 \%$	$D = 4.5 \%$ (**)	$D < 20 \%$
Overshoot and ringing (*)	$0 < \pm 1 V$	$0 = 0.3 V$ (**)	$0 < \pm 1 V$

JN 1081 approved DDP-J-403-A-0222

(*) Tested with a 250 kHz square wave of 27 Vpp with 100ns rise and fall times through a $360 \pm 5 \%$ Ω resistor.

(**) Average values taken during the JN 1081N qualification. - (***) 9.4 k Ω at 25°C guarantees 3 k Ω minimum from -65°C to 150°C



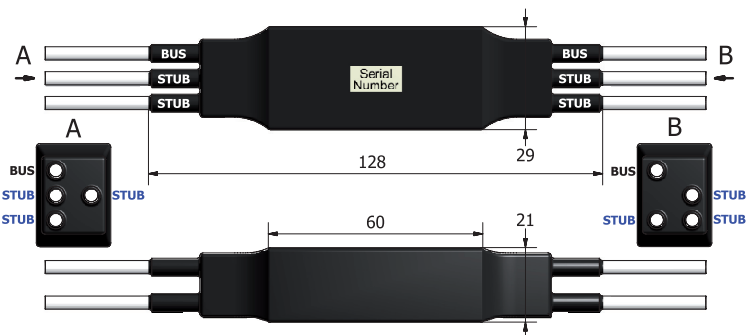
6 way inline coupler

SPECIFICATIONS

MIL-STD-1553B
STANAG 3838
SAE AS 4115

AMB / A - C6 - XX

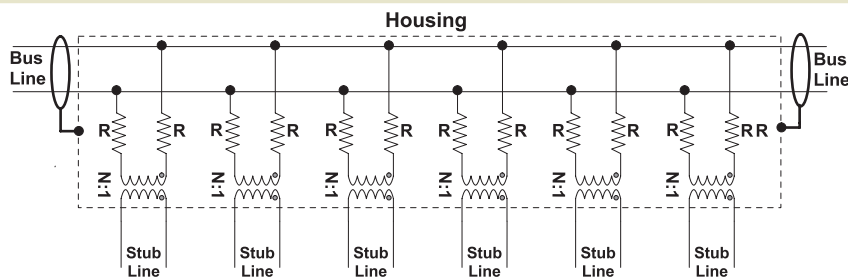
Version with bus lines on opposite sides of the coupler.



DIMENSIONS in mm

Electrical scheme

$N = 1.41 \pm 3\%$
R = fault protection resistor
 $R = 0.75 Z_0 = 57.6 \Omega \pm 1\%$



Identification code

AMB /

**AXON'
MICROBUS**
(see complete
reference of the
coupler on Bus
Standard sheet,
page 14).

A

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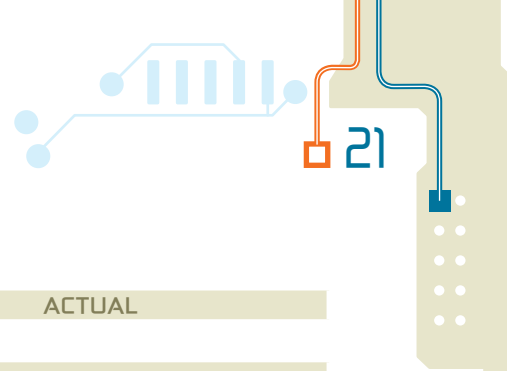
C6

6 : 6 WAY INLINE COUPLER
Version with bus lines on
opposite sides of the coupler.

XX

CABLE REFERENCES (see cable specifications)
10 : TWINAX BUS AWG 24 SINGLE BRAID (SB)
according to MIL-C-17 /176-00002
20 : TWINAX BUS AWG 24 SINGLE BRAID (SB)
according to PR EN 3375-003
21 : TWINAX BUS AWG 24 DOUBLE BRAID (DB)
according to PR EN 3375-004
22 : TWINAX BUS AWG 24 DOUBLE BRAID with
high immunity tape (DB/HI) according to PR EN 3375-005

NOTE : CABLE LENGTH AND CABLE COLOUR TO BE DEFINED WHEN ORDERING
(possibility to differentiate bus and stub cable with a striped colour tape under the transparent jacket or the extrusion of a colour jacket).



Electrical characteristics

PARAMETERS	REQUIRED	ACTUAL
Nominal line impedance *	70 to 84 Ω	70 to 84 Ω
Turn ratio	$\sqrt{2} \pm 3 \%$	$\sqrt{2} \pm 3 \%$
CMR	< -45 dB at 1 MHz	< -50 dB at 1 MHz
Input impedance	> 500 Ω in the frequency range (75 KHz to 1 MHz) and in the indicated temp. range (-65°C to 150°C)	> 500 Ω
Fault protection insulation resistors in series on each bus winding connection	0.75 $Z_o \pm 2 \%$	57.6 $\Omega \pm 1 \%$
Insulation resistance between :		
- bus / stub	-	> 1 000 M Ω at 250 Vdc
- inner wires / shield	-	> 1 000 M Ω at 500 Vdc
Shield continuity	-	10 m Ω maximum
Shield coverage	Cable 90 % Connection 75 %	Cable 90 % minimum Connection 100 %
Dielectric withstanding strength :		
- between shield and inner wires	-	500 V rms
- between outer insulation and shield	-	500 V rms

* Impedance : seen from the stub when the bus line is loaded with Z_o at both sides of the coupler.

Mechanical and environmental characteristics

PARAMETERS	PARAMETERS
Operating temperature : -65°C to +150°C	High resistance to board fluids (sealed case)
Weight : < 100 g	High resistance to salt spray (sealed case)
Axial extraction force : 100 N	MTBF available following MIL-HDBK 217 (environment and operating temperature to be specified)
Excellent vibration and shock resistance	Fully waterproof
Excellent resistance to thermal stress	
Low pressure resistance : 11 mbar	

Transformer characteristics

PARAMETERS	REQUIRED VALUES (MIL-STD-1553 or SAE AS 4115)	NOMINAL VALUES OR AXON' REQUIRED VALUES	
		NOMINAL VALUES	REQUIRED BY AXON' / QUALITY PLAN
Curie point	-	-	Over 195°C
Turn ratio	$\sqrt{2} \pm 3 \%$	$\sqrt{2} \pm 3 \%$	$\sqrt{2} \pm 3 \%$
Secondary DC resistance	$R_s < 5 \Omega$	$R_s = 2 \Omega$	$R_s < 2.5 \Omega$
Insulation resistance (winding to winding)	$R_i > 100 M\Omega$	-	$R_i > 1 000 M\Omega$ with a 250 Vdc test voltage
Primary open circuit impedance (from 75 kHz to 1 MHz)	$ Z > 3 k\Omega$ on full temperature operating range	$ Z > 10 k\Omega$ at 25°C $ Z > 4.8 k\Omega$ at -65°C $ Z > 4 k\Omega$ at -85°C	$ Z \geq 9.4 k\Omega$ at 25°C (***)
Primary parallel inductance	-	$L_p = 22 mH$	$L_p \geq 20 mH$
Primary parallel capacitance	-	$C_p = 10 pF$	$C_p \leq 11.4 pF$
Inter-winding capacitance	-	$C_i = 45 pF$	-
Primary leakage inductance	-	-	$L_f \leq 6 \mu H$
Droop (*)	$D < 20 \%$	$D = 4.5 \%$ (**)	$D < 20 \%$
Overshoot and ringing (*)	$0 < \pm 1 V$	$0 = 0.3 V$ (**)	$0 < \pm 1 V$

JN 1081 approved DDP-J-403-A-0222

(*) Tested with a 250 kHz square wave of 27 Vpp with 100ns rise and fall times through a $360 \pm 5 \%$ Ω resistor.

(**) Average values taken during the JN 1081N qualification. - (***) 9.4 k Ω at 25°C guarantees 3 k Ω minimum from -65°C to 150°C



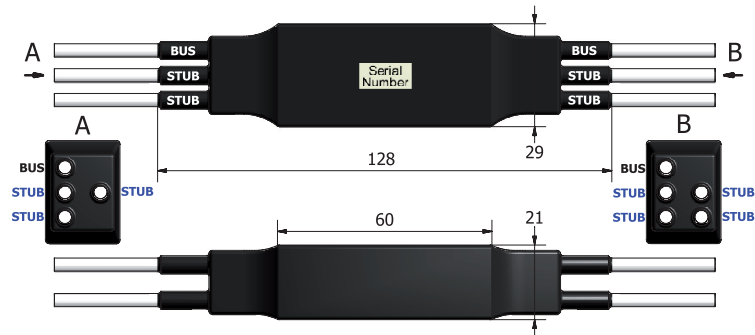
7 way inline coupler

SPECIFICATIONS

MIL-STD-1553B
STANAG 3838
SAE AS 4115

AMB / A - C7 - XX

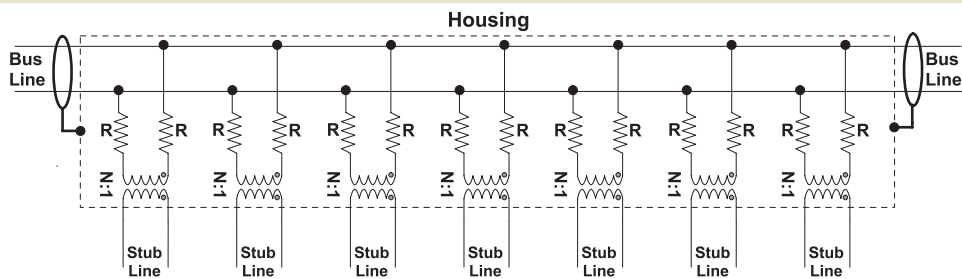
Version with bus lines on opposite sides of the coupler.



DIMENSIONS in mm

Electrical scheme

$N = 1.41 \pm 3\%$
R = fault protection resistor
 $R = 0.75 Z_0 = 57.6 \Omega \pm 1\%$



Identification code

AMB /

**AXON'
MICROBUS**
(see complete
reference of the
coupler on Bus
Standard sheet,
page 14).

A

**A : AERONAUTICS
VERSION**
(for space
applications,
please contact us)

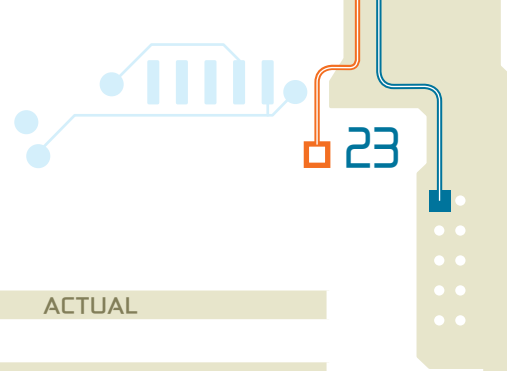
C7

7 : 7 WAY INLINE COUPLER
Version with bus lines on
opposite sides of the coupler.

XX

CABLE REFERENCES (see cable specifications)
10 : TWINAX BUS AWG 24 SINGLE BRAID (SB)
according to MIL-C-17 /176-00002
20 : TWINAX BUS AWG 24 SINGLE BRAID (SB)
according to PR EN 3375-003
21 : TWINAX BUS AWG 24 DOUBLE BRAID (DB)
according to PR EN 3375-004
22 : TWINAX BUS AWG 24 DOUBLE BRAID with
high immunity tape (DB/HI) according to PR EN 3375-005

NOTE : CABLE LENGTH AND CABLE COLOUR TO BE DEFINED WHEN ORDERING
(possibility to differentiate bus and stub cable with a striped colour tape under the transparent jacket or the extrusion of a colour jacket).



Electrical characteristics

PARAMETERS	REQUIRED	ACTUAL
Nominal line impedance *	70 to 84 Ω	70 to 84 Ω
Turn ratio	$\sqrt{2} \pm 3 \%$	$\sqrt{2} \pm 3 \%$
CMR	< -45 dB at 1 MHz	< -50 dB at 1 MHz
Input impedance	> 429 Ω in the frequency range (75 KHz to 1 MHz) and in the indicated temp. range (-65°C to 150°C)	> 429 Ω
Fault protection insulation resistors in series on each bus winding connection	0.75 $Z_o \pm 2 \%$	57.6 $\Omega \pm 1 \%$
Insulation resistance between :		
- bus / stub	-	> 1 000 M Ω at 250 Vdc
- inner wires / shield	-	> 1 000 M Ω at 500 Vdc
Shield continuity	-	10 m Ω maximum
Shield coverage	Cable 90 % Connection 75 %	Cable 90 % minimum Connection 100 %
Dielectric withstanding strength :		
- between shield and inner wires	-	500 V rms
- between outer insulation and shield	-	500 V rms

* Impedance : seen from the stub when the bus line is loaded with Z_o at both sides of the coupler.

Mechanical and environmental characteristics

PARAMETERS	PARAMETERS
Operating temperature : -65°C to +150°C	High resistance to board fluids (sealed case)
Weight : < 100 g	High resistance to salt spray (sealed case)
Axial extraction force : 100 N	MTBF available following MIL-HDBK 217 (environment and operating temperature to be specified)
Excellent vibration and shock resistance	Fully waterproof
Excellent resistance to thermal stress	
Low pressure resistance : 11 mbar	

Transformer characteristics

PARAMETERS	REQUIRED VALUES (MIL-STD-1553 or SAE AS 4115)	NOMINAL VALUES OR AXON' REQUIRED VALUES	
		NOMINAL VALUES	REQUIRED BY AXON' / QUALITY PLAN
Curie point	-	-	Over 195°C
Turn ratio	$\sqrt{2} \pm 3 \%$	$\sqrt{2} \pm 3 \%$	$\sqrt{2} \pm 3 \%$
Secondary DC resistance	$R_s < 5 \Omega$	$R_s = 2 \Omega$	$R_s < 2.5 \Omega$
Insulation resistance (winding to winding)	$R_i > 100 M\Omega$	-	$R_i > 1 000 M\Omega$ with a 250 Vdc test voltage
Primary open circuit impedance (from 75 kHz to 1 MHz)	$ Z > 3 k\Omega$ on full temperature operating range	$ Z > 10 k\Omega$ at 25°C $ Z > 4.8 k\Omega$ at -65°C $ Z > 4 k\Omega$ at -85°C	$ Z \geq 9.4 k\Omega$ at 25°C (***)
Primary parallel inductance	-	$L_p = 22 mH$	$L_p \geq 20 mH$
Primary parallel capacitance	-	$C_p = 10 pF$	$C_p \leq 11.4 pF$
Inter-winding capacitance	-	$C_i = 45 pF$	-
Primary leakage inductance	-	-	$L_f \leq 6 \mu H$
Droop (*)	$D < 20 \%$	$D = 4.5 \%$ (**)	$D < 20 \%$
Overshoot and ringing (*)	$0 < \pm 1 V$	$0 = 0.3 V$ (**)	$0 < \pm 1 V$

JN 1081 approved DDP-J-403-A-0222

(*) Tested with a 250 kHz square wave of 27 Vpp with 100ns rise and fall times through a $360 \pm 5 \%$ Ω resistor.

(**) Average values taken during the JN 1081N qualification. - (***) 9.4 k Ω at 25°C guarantees 3 k Ω minimum from -65°C to 150°C



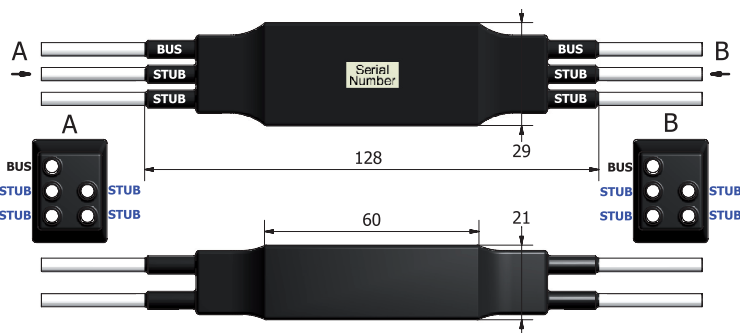
8 way inline coupler

SPECIFICATIONS

MIL-STD-1553B
STANAG 3838
SAE AS 4115

AMB / A - C8 - XX

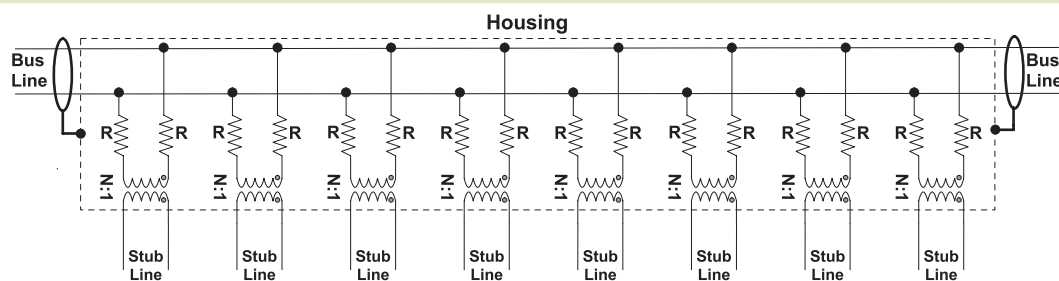
Version with bus lines on opposite sides of the coupler.



DIMENSIONS in mm

Electrical scheme

$N = 1.41 \pm 3\%$
R = fault protection resistor
 $R = 0.75 Z_0 = 57.6 \Omega \pm 1\%$



Identification code

AMB /

**AXON'
MICROBUS**
(see complete
reference of the
coupler on Bus
Standard sheet,
page 14).

A

**A : AERONAUTICS
VERSION**
(for space
applications,
please contact us)

C8

8 : 8 WAY INLINE COUPLER
Version with bus lines on
opposite sides of the coupler.

XX

CABLE REFERENCES (see cable specifications)
10 : TWINAX BUS AWG 24 SINGLE BRAID (SB)
according to MIL-C-17 /176-00002
20 : TWINAX BUS AWG 24 SINGLE BRAID (SB)
according to PR EN 3375-003
21 : TWINAX BUS AWG 24 DOUBLE BRAID (DB)
according to PR EN 3375-004
22 : TWINAX BUS AWG 24 DOUBLE BRAID with
high immunity tape (DB/HI) according to PR EN 3375-005

NOTE : CABLE LENGTH AND CABLE COLOUR TO BE DEFINED WHEN ORDERING
(possibility to differentiate bus and stub cable with a striped colour tape under the transparent jacket or the extrusion of a colour jacket).



Electrical characteristics

PARAMETERS	REQUIRED	ACTUAL
Nominal line impedance *	70 to 84 Ω	70 to 84 Ω
Turn ratio	$\sqrt{2} \pm 3 \%$	$\sqrt{2} \pm 3 \%$
CMR	< -45 dB at 1 MHz	< -50 dB at 1 MHz
Input impedance	> 375 Ω in the frequency range (75 KHz to 1 MHz) and in the indicated temp. range (-65°C to 150°C)	> 375 Ω
Fault protection insulation resistors in series on each bus winding connection	0.75 $Z_o \pm 2 \%$	57.6 $\Omega \pm 1 \%$
Insulation resistance between :		
- bus / stub	-	> 1 000 M Ω at 250 Vdc
- inner wires / shield	-	> 1 000 M Ω at 500 Vdc
Shield continuity	-	10 m Ω maximum
Shield coverage	Cable 90 % Connection 75 %	Cable 90 % minimum Connection 100 %
Dielectric withstanding strength :		
- between shield and inner wires	-	500 V rms
- between outer insulation and shield	-	500 V rms

* Impedance : seen from the stub when the bus line is loaded with Z_o at both sides of the coupler.

Mechanical and environmental characteristics

PARAMETERS	PARAMETERS
Operating temperature : -65°C to +150°C	High resistance to board fluids (sealed case)
Weight : < 100 g	High resistance to salt spray (sealed case)
Axial extraction force : 100 N	MTBF available following MIL-HDBK 217 (environment and operating temperature to be specified)
Excellent vibration and shock resistance	Fully waterproof
Excellent resistance to thermal stress	
Low pressure resistance : 11 mbar	

Transformer characteristics

PARAMETERS	REQUIRED VALUES (MIL-STD-1553 or SAE AS 4115)	NOMINAL VALUES OR AXON' REQUIRED VALUES	
		NOMINAL VALUES	REQUIRED BY AXON' / QUALITY PLAN
Curie point	-	-	Over 195°C
Turn ratio	$\sqrt{2} \pm 3 \%$	$\sqrt{2} \pm 3 \%$	$\sqrt{2} \pm 3 \%$
Secondary DC resistance	$R_s < 5 \Omega$	$R_s = 2 \Omega$	$R_s < 2.5 \Omega$
Insulation resistance (winding to winding)	$R_i > 100 M\Omega$	-	$R_i > 1 000 M\Omega$ with a 250 Vdc test voltage
Primary open circuit impedance (from 75 kHz to 1 MHz)	$ Z > 3 k\Omega$ on full temperature operating range	$ Z > 10 k\Omega$ at 25°C $ Z > 4.8 k\Omega$ at -65°C $ Z > 4 k\Omega$ at -85°C	$ Z \geq 9.4 k\Omega$ at 25°C (***)
Primary parallel inductance	-	$L_p = 22 mH$	$L_p \geq 20 mH$
Primary parallel capacitance	-	$C_p = 10 pF$	$C_p \leq 11.4 pF$
Inter-winding capacitance	-	$C_i = 45 pF$	-
Primary leakage inductance	-	-	$L_f \leq 6 \mu H$
Droop (*)	$D < 20 \%$	$D = 4.5 \%$ (**)	$D < 20 \%$
Overshoot and ringing (*)	$0 < \pm 1 V$	$0 = 0.3 V$ (**)	$0 < \pm 1 V$

JN 1081 approved DDP-J-403-A-0222

(*) Tested with a 250 kHz square wave of 27 Vpp with 100ns rise and fall times through a $360 \pm 5 \%$ Ω resistor.

(**) Average values taken during the JN 1081N qualification. - (***) 9.4 k Ω at 25°C guarantees 3 k Ω minimum from -65°C to 150°C

1 way inline coupler

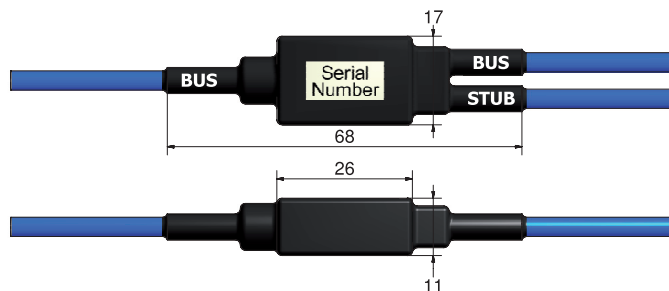
SPECIFICATIONS

MIL-STD-1553B
SPE-J-403-A-0070
PAN 6421
JN 1042*
SAE AS 4115

* JN 1042
approval only concerns
AMB/E - C1 with cable 31.
DDP reference :
DDP-J-403-0219.

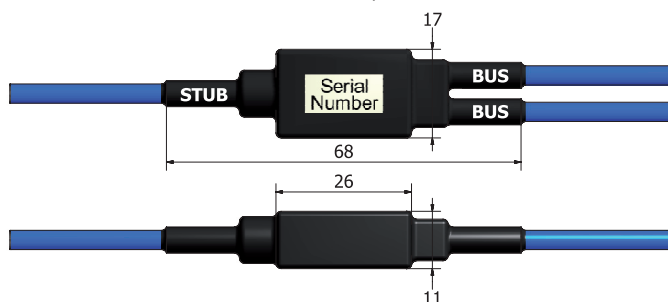
AMB / E - C1 - XX

Version with bus lines on opposite sides of the coupler.



AMB / E - C11 - XX

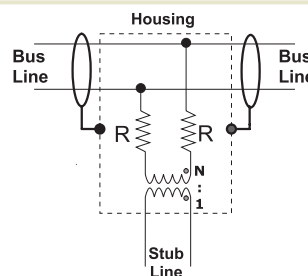
Version with bus lines on same side of the coupler.



DIMENSIONS in mm

Electrical scheme

$N = 1.41 \pm 3\%$
 $R = \text{fault protection resistor}$
 $R = 0.75 Z_0 = 57.6 \Omega \pm 1\%$



Identification code

AMB /

**AXON'
MICROBUS**
(see complete
reference of the
coupler on Bus
Standard sheet,
page 14).

E

**E : EUROFIGHTER
VERSION**

CX

1 : 1 WAY INLINE COUPLER
Version with bus lines on
opposite sides of the coupler.
11 : 1 WAY INLINE COUPLER
Version with bus lines on
same side of the coupler.
(not a JN 1042 ITEM)

XX

CABLE REFERENCES (see cable specifications)
31 : TWINAX BUS AWG 24 DOUBLE BRAID (DB)
according to PAN 6421
60 : TWINAX BUS AWG 24 EXPANDED PTFE SINGLE BRAID (SB)
(not a JN 1042 ITEM)
61 : TWINAX BUS AWG 24 EXPANDED PTFE DOUBLE BRAID (DB)
(not a JN 1042 ITEM)

NOTE : CABLE LENGTH AND CABLE COLOUR TO BE DEFINED WHEN ORDERING
(possibility to differentiate bus and stub cable with a striped colour tape under the transparent jacket or the extrusion of a colour jacket).

Electrical characteristics

PARAMETERS	REQUIRED	ACTUAL
Nominal line impedance *	70 to 84 Ω	70 to 84 Ω
Turn ratio	1.41 \pm 3 %	1.41 \pm 3 %
CMR	< -45 dB at 1 MHz	< -45 dB at 1 MHz
Input impedance	> 3000 Ω in the frequency range (75 KHz to 1 MHz) and in the indicated temp. range (-55°C to 150°C)	> 3000 Ω
Fault protection insulation resistors in series on each bus winding connection	0.75 $Z_o \pm 2$ %	57.6 $\Omega \pm 1$ %
Insulation resistance between : - bus / stub - inner wires / shield	100 M Ω at 250 Vdc 100 M Ω at 250 Vdc	> 1 000 M Ω at 250 Vdc > 1 000 M Ω at 500 Vdc
Transfer impedance	plot available	plot available
Shield continuity	-	10 m Ω maximum
Shield coverage	Cable 90 % Connection 75 %	Cable 90 % minimum Connection 100 %
Dielectric withstanding strength : - between shield and inner wires - between outer insulation and shield	100 V rms 100 V rms	500 V rms 500 V rms

* Impedance : seen from the stub when the bus line is loaded with Z_o at both sides of the coupler.

Mechanical and environmental characteristics

PARAMETERS	REQUIRED	ACTUAL
Operating temperature	-55°C to +150°C	-55°C to +150°C
Weight	< 10 g	< 10 g
Axial extraction force	\geq 100 N	\geq 100 N
Excellent vibration and shock resistance : - random vibrations - gunfire vibrations - mechanical shocks	32 g rms, 1 hour in all directions 16 g rms, 120°C, 30 min. in all directions 49 g rms in all directions 15 g in all directions	32 g rms, 1 hour in all directions 16 g rms, 120°C, 30 min. in all directions 49 g rms in all directions 15 G's, half sine, 11 ms in all directions
Acceleration	20 g in all directions	20 G's in all directions
Low pressure resistance	9.1 mbars	9.1 mbars
Life test	1000 hours at +120°C	1000 hours at +120°C Bus operating with MIL-STD-1553B signal
Thermal test	-55°C to +150°C, 10 cycles	-55°C to +150°C, 10 cycles
MTBF calculated according to MIL-HDBK-217F	-	2.40 x 10 ⁶ hours at 25°C and A_{UF} environment
Fully waterproof allowing good resistance to onboard fluids and excellent resistance to salt spray (500 hours).		

Transformer characteristics

PARAMETERS	REQUIRED VALUES (MIL-STD-1553 or SAE AS 4115)	NOMINAL VALUES OR AXON' REQUIRED VALUES	
		NOMINAL VALUES	REQUIRED BY AXON' / QUALITY PLAN
Curie point	-	-	Over 195°C
Turn ratio	$\sqrt{2} \pm 3$ %	$\sqrt{2} \pm 3$ %	$\sqrt{2} \pm 3$ %
Secondary DC resistance	$R_s < 5 \Omega$	$R_s = 2 \Omega$	$R_s < 2.5 \Omega$
Insulation resistance (winding to winding)	$R_i > 100 M\Omega$	-	$R_i > 1 000 M\Omega$ with a 250 Vdc test voltage
Primary open circuit impedance (from 75 kHz to 1 MHz)	$ Z > 3 k\Omega$ on full temperature operating range	$ Z > 10 k\Omega$ at 25°C $ Z > 4.8 k\Omega$ at -65°C $ Z > 4 k\Omega$ at -85°C	$ Z \geq 9.4 k\Omega$ at 25°C (***)
Primary parallel inductance	-	$L_p = 22$ mH	$L_p \geq 20$ mH
Primary parallel capacitance	-	$C_p = 10$ pF	$C_p \leq 11.4$ pF
Inter-winding capacitance	-	$C_i = 45$ pF	-
Primary leakage inductance	-	-	$L_f \leq 6 \mu$ H
Droop (*)	$D < 20$ %	$D = 4.5$ % (**)	$D < 20$ %
Overshoot and ringing (*)	$0 < \pm 1$ V	$0 = 0.3$ V (**)	$0 < \pm 1$ V

JN 1081 approved DDP-J-403-A-0222

(*) Tested with a 250 kHz square wave of 27 Vpp with 100ns rise and fall times through a 360 ± 5 % Ω resistor.

(**) Average values taken during the JN 1081N qualification. - (***) 9.4 k Ω at 25°C guarantees 3 k Ω minimum from -65°C to 150°C

2 way inline coupler

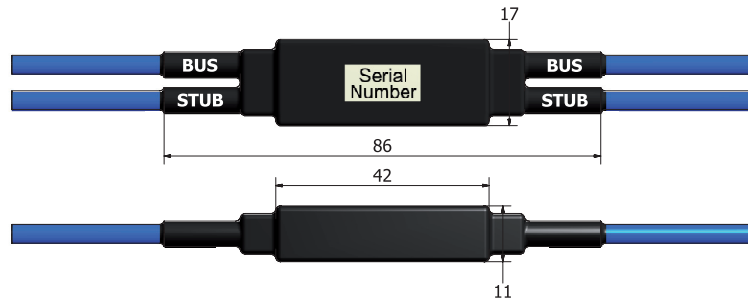
SPECIFICATIONS

MIL-STD-1553B
SPE-J-403-A-0070
PAN 6421
JN 1052*
SAE AS 4115

* JN 1052
approval only concerns
AMB/E - C2 with cable 31.
DDP reference :
DDP-J-403-0220.

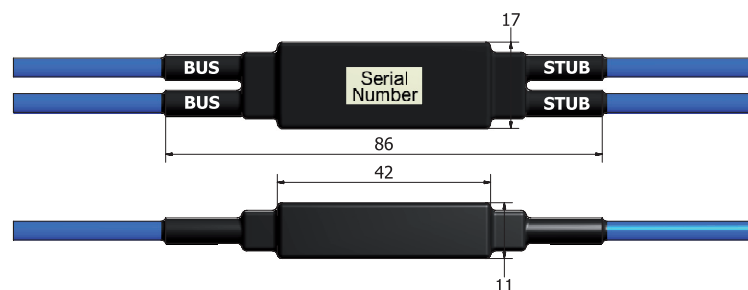
AMB / E - C2 - XX

Version with bus lines on opposite sides of the coupler.



AMB / E - C21 - XX

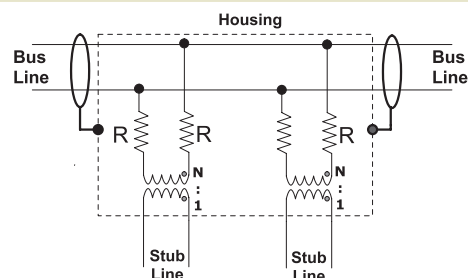
Version with bus lines on same side of the coupler.



DIMENSIONS in mm

Electrical scheme

$N = 1.41 \pm 3\%$
 $R = \text{fault protection resistor}$
 $R = 0.75 Z_0 = 57.6 \Omega \pm 1\%$



Identification code

AMB /

**AXON'
MICROBUS**
(see complete
reference of the
coupler on Bus
Standard sheet,
page 14).

E

**E : EUROFIGHTER
VERSION**

CX

2 : 2 WAY INLINE COUPLER
Version with bus lines on
opposite sides of the coupler.
21 : 2 WAY INLINE
Version with bus lines on
same side of the coupler.
(not a JN 1052 ITEM)

XX

CABLE REFERENCES (see cable specifications)
31 : TWINAX BUS AWG 24 DOUBLE BRAID (DB)
according to PAN 6421
60 : TWINAX BUS AWG 24 EXPANDED PTFE SINGLE BRAID (SB)
(not a JN 1052 ITEM)
61 : TWINAX BUS AWG 24 EXPANDED PTFE DOUBLE BRAID (DB)
(not a JN 1052 ITEM)

NOTE : CABLE LENGTH AND CABLE COLOUR TO BE DEFINED WHEN ORDERING
(possibility to differentiate bus and stub cable with a striped colour tape under the transparent jacket or the extrusion of a colour jacket).

Electrical characteristics

PARAMETERS	REQUIRED	ACTUAL
Nominal line impedance *	70 to 84 Ω	70 to 84 Ω
Turn ratio	1.41 \pm 3 %	1.41 \pm 3 %
CMR	< -45 dB at 1 MHz	< -45 dB at 1 MHz
Input impedance	> 1500 Ω in the frequency range (75 KHz to 1 MHz) and in the indicated temp. range (-55°C to 150°C)	> 1500 Ω
Fault protection insulation resistors in series on each bus winding connection	0.75 Z _o \pm 2 %	57.6 Ω \pm 1 %
Insulation resistance between : - bus / stub - inner wires / shield	100 M Ω at 250 Vdc 100 M Ω at 250 Vdc	> 1 000 M Ω at 250 Vdc > 1 000 M Ω at 500 Vdc
Transfer impedance	plot available	plot available
Shield continuity	-	10 m Ω maximum
Shield coverage	Cable 90 % Connection 75 %	Cable 90 % minimum Connection 100 %
Dielectric withstanding strength : - between shield and inner wires - between outer insulation and shield	100 V rms 100 V rms	500 V rms 500 V rms

* Impedance : seen from the stub when the bus line is loaded with Z_o at both sides of the coupler.

Mechanical and environmental characteristics

PARAMETERS	REQUIRED	ACTUAL
Operating temperature	-55°C to +150°C	-55°C to +150°C
Weight	< 17 g	< 17 g
Axial extraction force	>100 N	>100 N
Excellent vibration and shock resistance : - random vibrations	32 g rms, 1 hour in all directions 16 g rms, 120°C, 30 min. in all directions	32 g rms, 1 hour in all directions 16 g rms, 120°C, 30 min. in all directions
- gunfire vibrations	49 g rms in all directions	49 g rms in all directions
- mechanical shocks	15 g in all directions	15 G's, half sine, 11 ms in all directions
Acceleration	20 g in all directions	20 G's in all directions
Low pressure resistance	9.1 mbars	9.1 mbars
Life test	1000 hours at +120°C	1000 hours at +120°C Bus operating with MIL-STD-1553B signal
Thermal test	-55°C to +150°C, 10 cycles	-55°C to +150°C, 10 cycles
MTBF calculated according to MIL-HDBK-217F	-	1.28 x 10 ⁶ hours at 25°C and A _{JF} environment
Fully waterproof allowing good resistance to onboard fluids and excellent resistance to salt spray (500 hours).		

Transformer characteristics

PARAMETERS	REQUIRED VALUES (MIL-STD-1553 or SAE AS 4115)	NOMINAL VALUES OR AXON' REQUIRED VALUES	
		NOMINAL VALUES	REQUIRED BY AXON' / QUALITY PLAN
Curie point	-	-	Over 195°C
Turn ratio	$\sqrt{2} \pm 3$ %	$\sqrt{2} \pm 3$ %	$\sqrt{2} \pm 3$ %
Secondary DC resistance	R _s < 5 Ω	R _s = 2 Ω	R _s < 2.5 Ω
Insulation resistance (winding to winding)	R _i > 100 M Ω	-	R _i > 1 000 M Ω with a 250 Vdc test voltage
Primary open circuit impedance (from 75 kHz to 1 MHz)	Z > 3 k Ω on full temperature operating range	Z > 10 k Ω at 25°C Z > 4.8 k Ω at -65°C Z > 4 k Ω at -85°C	Z \geq 9.4 k Ω at 25°C (***)
Primary parallel inductance	-	L _p = 22 mH	L _p \geq 20 mH
Primary parallel capacitance	-	C _p = 10 pF	C _p \leq 11.4 pF
Inter-winding capacitance	-	C _i = 45 pF	-
Primary leakage inductance	-	-	L _f \leq 6 μ H
Droop (*)	D < 20 %	D = 4.5 % (**)	D < 20 %
Overshoot and ringing (*)	O < \pm 1 V	O = 0.3 V (**)	O < \pm 1 V

JN 1081 approved DDP-J-403-A-0222

(*) Tested with a 250 kHz square wave of 27 V_{pp} with 100ns rise and fall times through a 360 \pm 5 % Ω resistor.

(**) Average values taken during the JN 1081N qualification. - (***) 9.4 k Ω at 25°C guarantees 3 k Ω minimum from -65°C to 150°C

4 way inline coupler

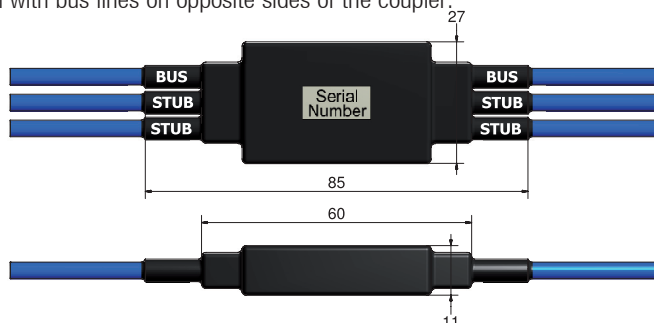
SPECIFICATIONS

MIL-STD-1553B
STANAG 3838
SAE AS 4115
JN 1176*

* JN 1176
approval only concerns
AMB/E - C4 with cable 31.
DDP reference :
DDP-J-920-A-823.

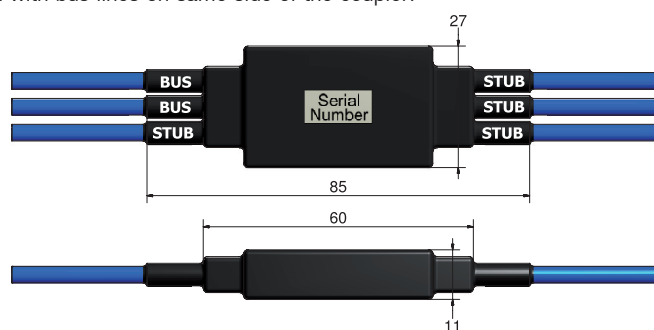
AMB / E - C4 - XX

Version with bus lines on opposite sides of the coupler.



AMB / E - C41 - XX

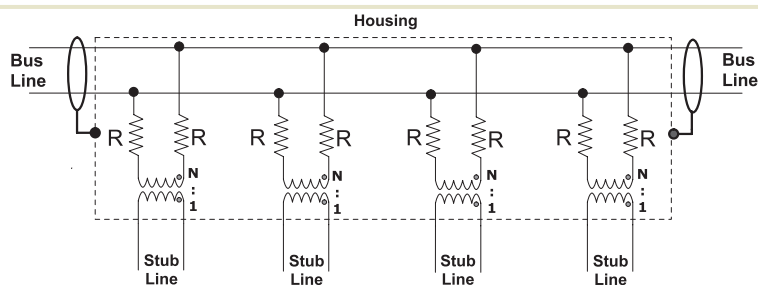
Version with bus lines on same side of the coupler.



DIMENSIONS in mm

Electrical scheme

$N = 1.41 \pm 3\%$
 $R = \text{fault protection resistor}$
 $R = 0.75 Z_0 = 57.6 \Omega \pm 1\%$



Identification code

AMB /

**AXON'
MICROBUS**
(see complete
reference of the
coupler on Bus
Standard sheet,
page 14).

E

**E : EUROFIGHTER
VERSION**

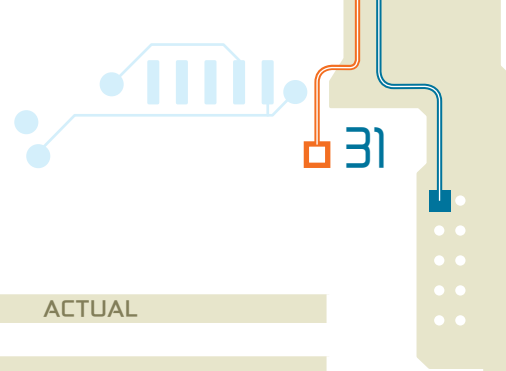
CX

4 : 4 WAY INLINE COUPLER
Version with bus lines on
opposite sides of the coupler.
41 : 4 WAY INLINE COUPLER
Version with bus lines on
same side of the coupler.
(not a JN 1176 ITEM)

XX

CABLE REFERENCES (see cable specifications)
31 : TWINAX BUS AWG 24 DOUBLE BRAID (DB)
according to PAN 6421- JN1176
60 : TWINAX BUS AWG 24 EXPANDED PTFE SINGLE BRAID (SB)
(not a JN 1176 ITEM)
61 : TWINAX BUS AWG 24 EXPANDED PTFE DOUBLE BRAID (DB)
(not a JN 1176 ITEM)

NOTE : CABLE LENGTH AND CABLE COLOUR TO BE DEFINED WHEN ORDERING
(possibility to differentiate bus and stub cable with a striped colour tape under the transparent jacket or the extrusion of a colour jacket).



Electrical characteristics

PARAMETERS	REQUIRED	ACTUAL
Nominal line impedance *	70 to 84 Ω	70 to 84 Ω
Turn ratio	1.41 \pm 3 %	1.41 \pm 3 %
CMR	< -45 dB at 1 MHz	< -50 dB at 1 MHz
Input impedance	> 750 Ω in the frequency range (75 KHz to 1 MHz) and in the indicated temp. range (-55°C to 150°C)	> 750 Ω
Fault protection insulation resistors in series on each bus winding connection	0.75 Zo \pm 2 %	57.6 $\Omega \pm$ 1 %
Insulation resistance between : - bus / stub - inner wires / shield	100 M Ω at 250 Vdc 100 M Ω at 250 Vdc	> 1 000 M Ω at 250 Vdc > 1 000 M Ω at 500 Vdc
Transfer impedance	-	plot available
Shield continuity	-	10 m Ω maximum
Shield coverage	Cable 90 % Connection 75 %	Cable 90 % minimum Connection 100 %
Dielectric withstanding strength : - between shield and inner wires - between outer insulation and shield	100 V rms 100 V rms	500 V rms 500 V rms

* Impedance : seen from the stub when the bus line is loaded with Zo at both sides of the coupler.

Mechanical and environmental characteristics

PARAMETERS	REQUIRED	ACTUAL
Operating temperature	-55°C to +150°C	-55°C to +150°C
Weight	-	< 25 g
Axial extraction force	>100 N	>100 N
Excellent vibration and shock resistance : - random vibrations - gunfire vibrations - mechanical shocks	32 g rms, 1 hour in all directions 16 g rms, 120°C, 30 min. in all directions 49 g rms 15 g in all directions	32 g rms, 1 hour in all directions 16 g rms, 120°C, 30 min. in all directions 49 g rms 15 G's, half sine, 11 ms in all directions
Acceleration	20 g in all directions	20 G's in all directions
Low pressure resistance	9.1 mbars	9.1 mbars
Life test	1000 hours at +120°C	1000 hours at +120°C Bus operating with MIL-STD-1553B signal
Thermal test	-55°C to +150°C, 10 cycles	-55°C to +150°C, 10 cycles
MTBF available following MIL-HDBK 217 (environment and operating temperature to be specified)		
Fully waterproof allowing good resistance to onboard fluids and excellent resistance to salt spray (500 hours).		

Transformer characteristics

PARAMETERS	REQUIRED VALUES (MIL-STD-1553 or SAE AS 4115)	NOMINAL VALUES OR AXON' REQUIRED VALUES	
		NOMINAL VALUES	REQUIRED BY AXON' / QUALITY PLAN
Curie point	-	-	Over 195°C
Turn ratio	$\sqrt{2} \pm 3$ %	$\sqrt{2} \pm 3$ %	$\sqrt{2} \pm 3$ %
Secondary DC resistance	Rs < 5 Ω	Rs = 2 Ω	Rs < 2.5 Ω
Insulation resistance (winding to winding)	Ri > 100 M Ω	-	Ri > 1 000 M Ω with a 250 Vdc test voltage
Primary open circuit impedance (from 75 kHz to 1 MHz)	Z > 3 k Ω on full temperature operating range	Z > 10 k Ω at 25°C Z > 4.8 k Ω at -65°C Z > 4 k Ω at -85°C	Z \geq 9.4 k Ω at 25°C (***)
Primary parallel inductance	-	Lp = 22 mH	Lp \geq 20 mH
Primary parallel capacitance	-	Cp = 10 pF	Cp \leq 11.4 pF
Inter-winding capacitance	-	Ci = 45 pF	-
Primary leakage inductance	-	-	Lf \leq 6 μ H
Droop (*)	D < 20 %	D = 4.5 % (**)	D < 20 %
Overshoot and ringing (*)	O < \pm 1 V	O = 0.3 V (**)	O < \pm 1 V

JN 1081 approved DDP-J-403-A-0222

(*) Tested with a 250 kHz square wave of 27 Vpp with 100ns rise and fall times through a 360 \pm 5 % Ω resistor.

(**) Average values taken during the JN 1081N qualification. - (***) 9.4 k Ω at 25°C guarantees 3 k Ω minimum from -65°C to 150°C



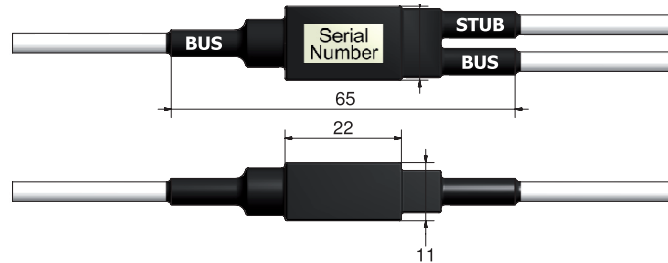
1 way inline direct coupler

SPECIFICATIONS

MIL-STD-1553B
STANAG 3838
SAE AS4115

AMBD / A - C1 - XX

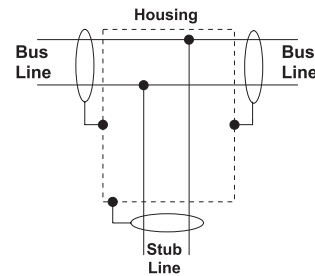
Version with bus lines on opposite sides of the coupler.



DIMENSIONS in mm

Electrical scheme

$N = 1.41 \pm 3\%$
R = fault protection resistor
 $R = 0.75 Z_0 = 57.6 \Omega \pm 1\%$



Identification code

AMBD /

A

C1

XX

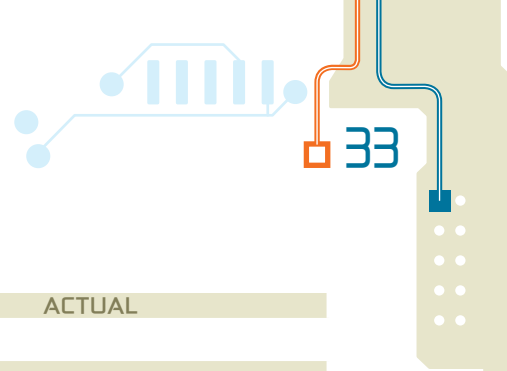
AXON'
MICROBUS
DIRECT
COUPLER

A : AERONAUTICS
VERSION

1 : 1 WAY INLINE DIRECT
COUPLER
Version with bus lines on
opposite sides of the coupler.

CABLE REFERENCES (see cable specifications)
10 : TWINAX BUS AWG 24 SINGLE BRAID (SB)
 according to MIL-C-17 /176-00002
20 : TWINAX BUS AWG 24 SINGLE BRAID (SB)
 according to PR EN 3375-003
21 : TWINAX BUS AWG 24 DOUBLE BRAID (DB)
 according to PR EN 3375-004
22 : TWINAX BUS AWG 24 DOUBLE BRAID with
 high immunity tape (DB/HI) according to PR EN 3375-005
70 : TWINAX BUS AWG 26 SINGLE BRAID (SB)
71 : TWINAX BUS AWG 26 DOUBLE BRAID (DB)
 according to ECS 0700
72 : TWINAX BUS AWG 26 DOUBLE BRAID
 with high immunity tape (DB/HI)
Other cables on request.

NOTE : CABLE LENGTH AND CABLE COLOUR TO BE DEFINED WHEN ORDERING
 (possibility to differentiate bus and stub cable with a striped colour tape under the transparent jacket or the extrusion of a colour jacket).



Electrical characteristics

PARAMETERS	REQUIRED	ACTUAL
Nominal line impedance	70 to 84 Ω	70 to 84 Ω
Insulation resistance between : - Outer jacket / shield - inner wires / shield	- -	1000 M Ω under V = 500 Vdc 1000 M Ω under V = 500 Vdc
Shield connection resistance	-	10 m Ω maximum
Shield coverage	Cable 90 % Connection 75 %	Cable 90 % minimum Connection 100 %
Dielectric withstanding strength : - between shield and inner conductors - between outer insulation and shield	- -	V = 500 V rms V = 500 V rms

Mechanical and environmental characteristics

PARAMETERS	PARAMETERS
Operating temperature : -65°C to +150°C	High resistance to board fluids (sealed case)
Weight : < 9 g	High resistance to salt spray (sealed case)
Axial extraction force : 100 N	MTBF available following MIL-HDBK 217 (environment and operating temperature to be specified)
Excellent vibration and shock resistance	Fully waterproof
Excellent resistance to thermal stress	Crush resistance : 500 N
Low pressure resistance : 11 mbar	



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