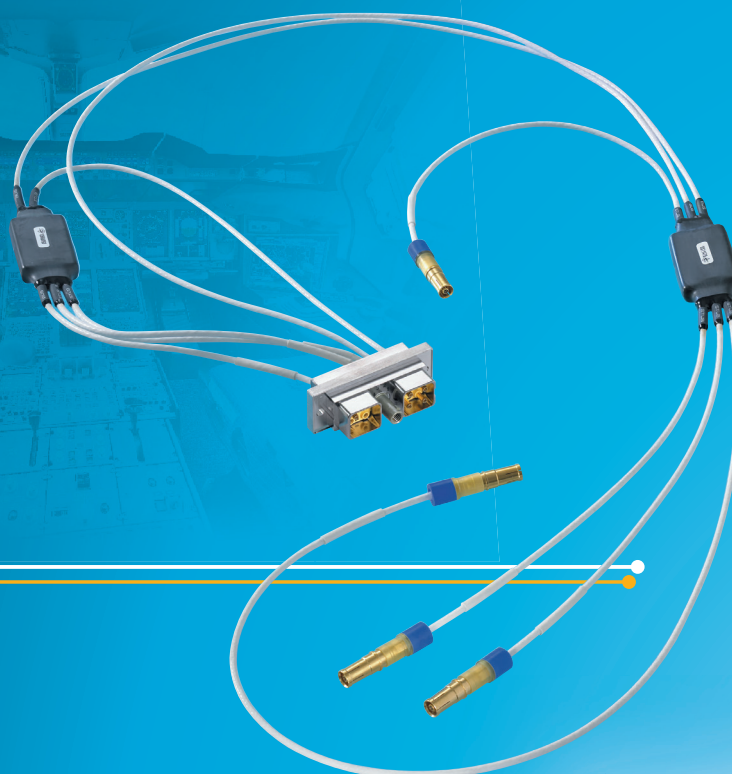




Box couplers

MIL-STD-1553
Databus products
for aeronautics applications



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Box couplers

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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.

BOX couplers

Removable
databus box
couplers allow
the user
to build
its databus
network
as a lego®.

Advantages of removable box couplers

- › The box coupler can be offered as a standard component.
- › The user can build its databus network for itself : branches can be easily changed
- › Box couplers are easy to use for prototypes
- › Box couplers are easy to use for lab testing or for land applications
- › They allow for easy maintenance and handling

The major drawbacks of box couplers (also called dismountable couplers) are the weight and the fixation mode.

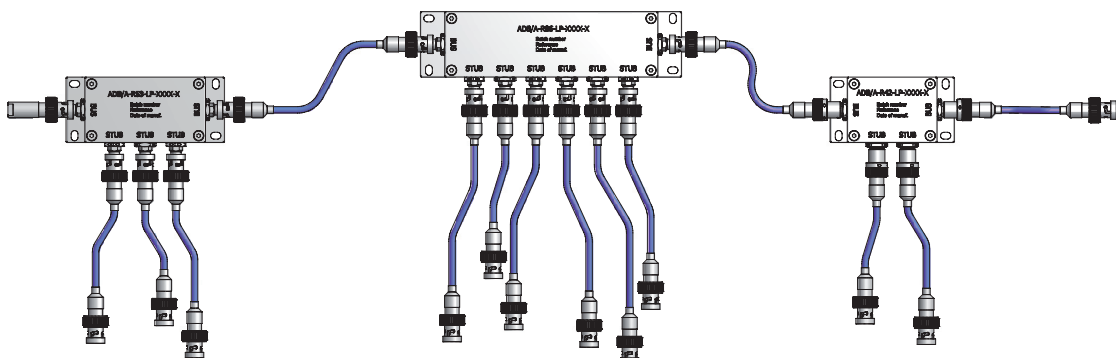
Box couplers are heavier than inline couplers (see page 12).

As far as the fixation mode is concerned, the network designer has to plan them quite early in the design phase.

Different versions

- › Low profile removable box couplers.
They are made with AXON' ACB1 connectors.
They are smaller and lighter than the standard box couplers.
- › Standard removable box couplers.
They mate with contacts made by Trompeter or other manufacturers.
- › Customised shapes to customer requests.

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TRADEMARK



BOX COUPLERS

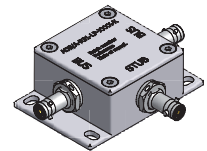
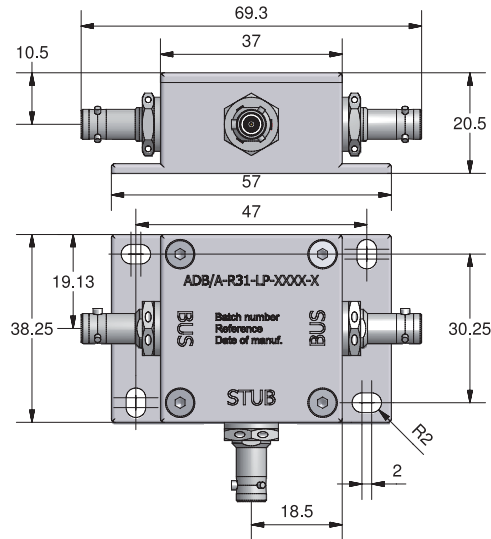
1 way box coupler

LOW PROFILE VERSION

ADB / A - R31 - LP - XXXX - X

SPECIFICATIONS

MIL-STD-1553B
SAE AS 4115

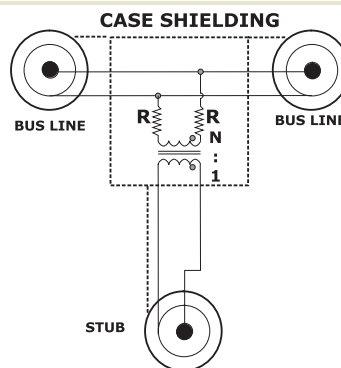


NOTE : customised databus couplers are available upon request.

DIMENSIONS in mm

Electrical scheme

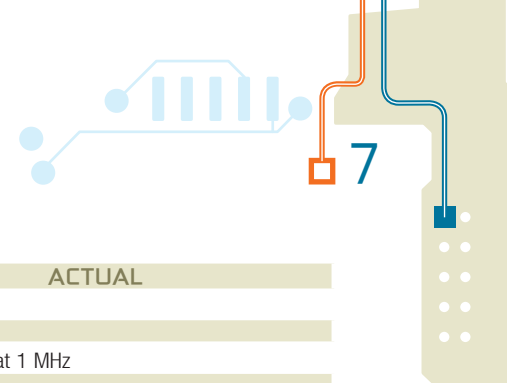
$N = 1.41 \pm 3\%$
R = fault protection resistor
 $R = 0.75 Z_0 = 57.6 \Omega \pm 1\%$



Identification code

ADB /	A	R	3	1	LP	XXXX	X
AXON' DATABUS COUPLER	A : AERONAUTICS VERSION (for space applications, please contact us)	REMOVABLE VERSION	NUMBER OF OUTLETS	NUMBER OF STUBS	LOW PROFILE VERSION	TYPE OF CONNECTORS See next page "available connector types"	INTERMEDIATE CONTACT TYPE See next page connector types

NOTE : POSSIBILITY TO INTEGRATE A BUS TERMINATOR (77 Ω) INSIDE THE COUPLER. In this case, there is only one connector on the bus line. For instance, ADB/A-R21-LP-XX is a coupler with one bus connector, one stub connector and one terminator inside the housing.



Electrical characteristics

PARAMETERS	REQUIRED	ACTUAL
Nominal line impedance (*)	77 ± 7 Ω	77 ± 7 Ω
Turn ratio	√2 ± 3 %	√2 ± 3 %
CMR	< -45 dB mini at 1 MHz	< -45 dB mini 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 Zo ± 2 %	57.6 Ω ± 1 %
Insulation resistance between :		
- bus / stub	100 MΩ	> 1 000 MΩ at 250 Vdc
- inner contacts / shield	100 MΩ	> 1 000 MΩ at 500 Vdc
Shield continuity	-	50 mΩ maximum.
Shield coverage	Connection 75 %	Connection 100 %
Dielectric withstanding strength :		
- between shield and inner wires	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	PARAMETERS
Operating temperature : -65°C to +150°C	Resistance to salt spray (48 hours) according to EN 2591-307
Weight : < 85 g	MTBF available following MIL-HDBK 217
Excellent vibration and shock resistance	(environment and operating temperature to be specified)
Excellent resistance to thermal stress	

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	√2 ± 3 %	√2 ± 3 %	√2 ± 3 %
Secondary DC resistance	Rs < 5 Ω	Rs = 2 Ω	Rs < 2.5 Ω
Insulation resistance (winding to winding)	Ri > 100 MΩ	-	Ri > 1 000 MΩ with a 250 Vdc test voltage
Primary open circuit impedance (from 75 kHz to 1 MHz)	Z > 3 kΩ on full temperature operating range	Z > 10 kΩ at 25°C Z > 4.8 kΩ at -65°C Z > 4 kΩ at -85°C	Z ≥ 9.4 kΩ at 25°C (***)
Primary parallel inductance	-	Lp = 22 mH	Lp ≥ 20 mH
Primary parallel capacitance	-	Cp = 10 pF	Cp ≤ 11.4 pF
Inter-winding capacitance	-	Ci = 45 pF	-
Primary leakage inductance	-	-	Lf ≤ 6 μH
Droop (*)	D < 20 %	D = 4.5 % (**)	D < 20 %
Overshoot and ringing (*)	O < ± 1 V	O = 0.3 V (**)	O < ± 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 kΩ at 25°C guarantees 3 kΩ minimum from -65°C to 150°C

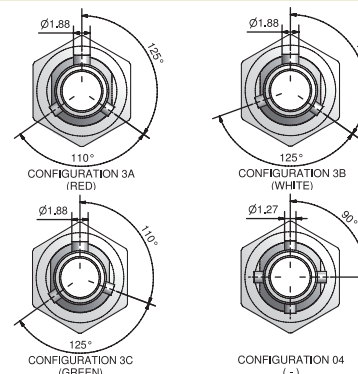
Connector types : AXON' ACB1 series

COUPLER REFERENCE	CONNECTOR TYPE (*)
ADB/A - R31 - LP - BK3A-X with X = S or P (**)	Bayonet 3 lug connector with pin or socket intermediate contact
ADB/A - R31 - LP - BK3B-X with X = S or P (**)	Bayonet 3 lug connector with pin or socket intermediate contact
ADB/A - R31 - LP - BK3C-X with X = S or P (**)	Bayonet 3 lug connector with pin or socket intermediate contact
ADB/A - R31 - LP - BK4-X with X = S or P (**)	Bayonet 4 lug connector with pin or socket intermediate contact
ADB/A - R31 - LP - BK01-X with X = S or P (**)	Threaded connector with pin or socket intermediate contact

(*) : Refers to the ACB1 specification to have detailed technical information and half mating connectors.

(**) : The sex of the connector (pin or socket) is given by the intermediate contact.

CORRESPONDING KEYING



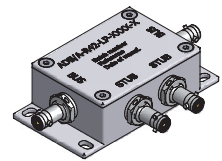
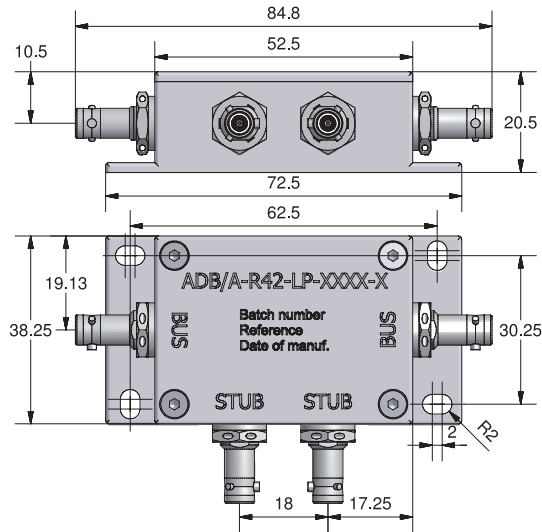
2 way box coupler

LOW
PROFILE
VERSION

ADB / A - R42 - LP - XXXX - X

SPECIFICATIONS

MIL-STD-1553B
SAE AS 4115

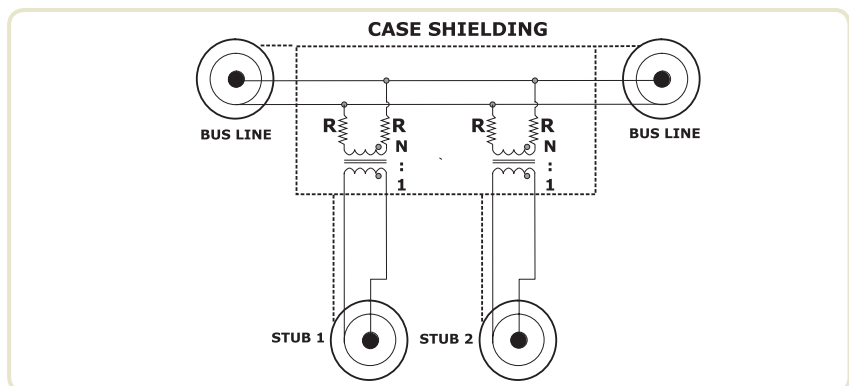


NOTE : customised databus couplers
are available upon request.

DIMENSIONS in mm

Electrical scheme

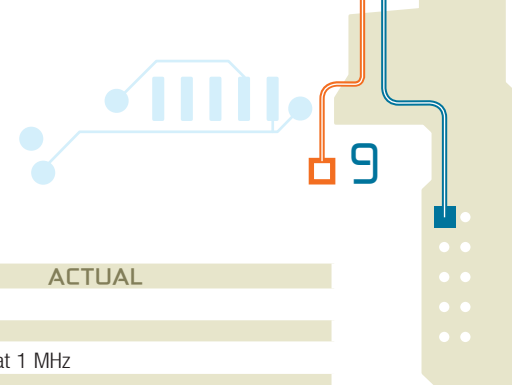
$N = 1.41 \pm 3\%$
R = fault protection resistor
 $R = 0.75 Z_0 = 57.6 \Omega \pm 1\%$



Identification code

ADB /	A	R	4	2	LP	XXXX	X
AXON' DATABUS COUPLER	A : AERONAUTICS VERSION (for space applications, please contact us)	REMOVABLE VERSION	NUMBER OF OUTLETS	NUMBER OF STUBS	LOW PROFILE VERSION	TYPE OF CONNECTORS See next page "available connector types"	INTERMEDIATE CONTACT TYPE See next page connector types

NOTE : POSSIBILITY TO INTEGRATE A BUS TERMINATOR (77 Ω) INSIDE THE COUPLER. In this case, there is only one connector on the bus line.
For instance, ADB/A-R32-LP-XX is a coupler with one bus connector, two stub connectors and one terminator inside the housing.



Electrical characteristics

PARAMETERS	REQUIRED	ACTUAL
Nominal line impedance (*)	77 ± 7 Ω	77 ± 7 Ω
Turn ratio	√2 ± 3 %	√2 ± 3 %
CMR	< -45 dB mini at 1 MHz	< -45 dB mini 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 Zo ± 2 %	57.6 Ω ± 1 %
Insulation resistance between :		
- bus / stub	100 MΩ	> 1 000 MΩ at 250 Vdc
- inner contacts / shield	100 MΩ	> 1 000 MΩ at 500 Vdc
Shield continuity	-	50 mΩ maximum.
Shield coverage	Connection 75 %	Connection 100 %
Dielectric withstanding strength :		
- between shield and inner wires	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	PARAMETERS
Operating temperature : -65°C to +150°C	Resistance to salt spray (48 hours) according to EN 2591-307
Weight : < 116 g	MTBF available following MIL-HDBK 217 (environment and operating temperature to be specified)
Excellent vibration and shock resistance	
Excellent resistance to thermal stress	

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	√2 ± 3 %	√2 ± 3 %	√2 ± 3 %
Secondary DC resistance	Rs < 5 Ω	Rs = 2 Ω	Rs < 2.5 Ω
Insulation resistance (winding to winding)	Ri > 100 MΩ	-	Ri > 1 000 MΩ with a 250 Vdc test voltage
Primary open circuit impedance (from 75 kHz to 1 MHz)	Z > 3 kΩ on full temperature operating range	Z > 10 kΩ at 25°C Z > 4.8 kΩ at -65°C Z > 4 kΩ at -85°C	Z ≥ 9.4 kΩ at 25°C (***)
Primary parallel inductance	-	Lp = 22 mH	Lp ≥ 20 mH
Primary parallel capacitance	-	Cp = 10 pF	Cp ≤ 11.4 pF
Inter-winding capacitance	-	Ci = 45 pF	-
Primary leakage inductance	-	-	Lf ≤ 6 μH
Droop (*)	D < 20 %	D = 4.5 % (**)	D < 20 %
Overshoot and ringing (*)	O < ± 1 V	O = 0.3 V (**)	O < ± 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 kΩ at 25°C guarantees 3 kΩ minimum from -65°C to 150°C

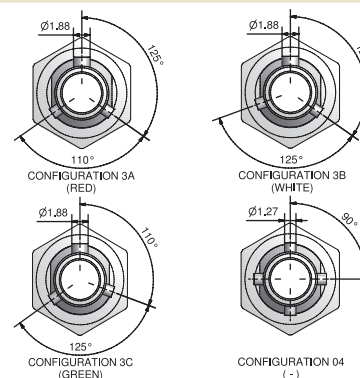
Connector types : AXON' ACB1 series

COUPLER REFERENCE	CONNECTOR TYPE (*)
ADB/A - R42 - LP - BK3A-X with X = S or P (**)	Bayonet 3 lug connector with pin or socket intermediate contact
ADB/A - R42 - LP - BK3B-X with X = S or P (**)	Bayonet 3 lug connector with pin or socket intermediate contact
ADB/A - R42 - LP - BK3C-X with X = S or P (**)	Bayonet 3 lug connector with pin or socket intermediate contact
ADB/A - R42 - LP - BK4-X with X = S or P (**)	Bayonet 4 lug connector with pin or socket intermediate contact
ADB/A - R42 - LP - BK01-X with X = S or P (**)	Threaded connector with pin or socket intermediate contact

(*) : Refers to the ACB1 specification to have detailed technical information and half mating connectors.

(**) : The sex of the connector (pin or socket) is given by the intermediate contact.

CORRESPONDING KEYING



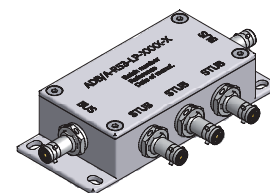
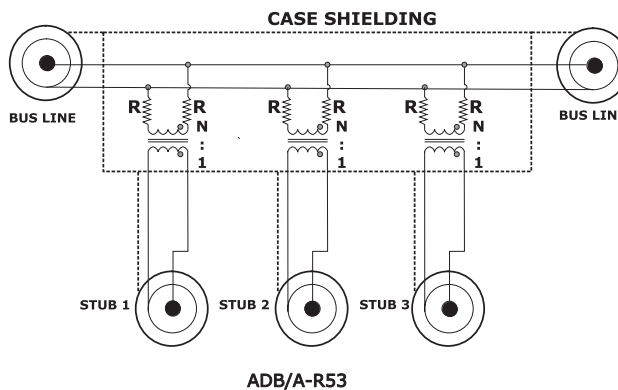
3 way box coupler

LOW PROFILE VERSION

ADB / A - R53 - LP - XXXX - X

SPECIFICATIONS

MIL-STD-1553B
SAE AS 4115

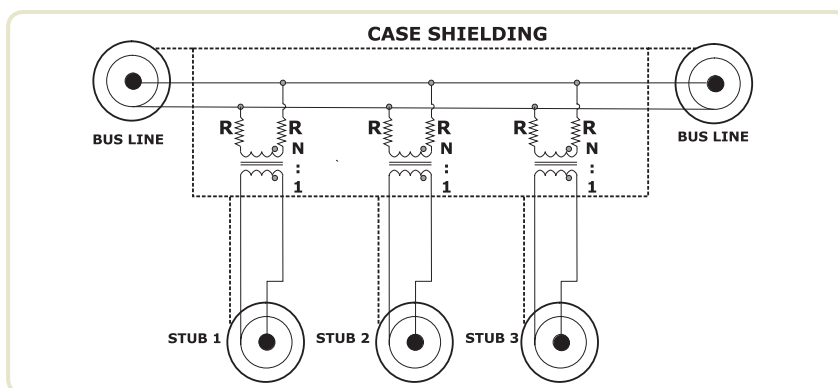


NOTE : customised databus couplers are available upon request.

DIMENSIONS in mm

Electrical scheme

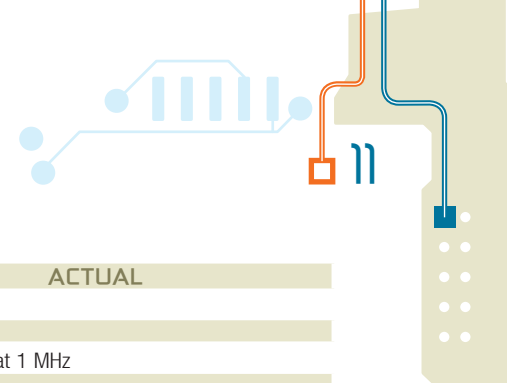
$N = 1.41 \pm 3\%$
R = fault protection resistor
 $R = 0.75 Z_0 = 57.6 \Omega \pm 1\%$



Identification code

ADB /	A	R	5	3	LP	XXXX	X
AXON' DATABUS COUPLER	A : AERONAUTICS VERSION (for space applications, please contact us)	REMOVABLE VERSION	NUMBER OF OUTLETS	NUMBER OF STUBS	LOW PROFILE VERSION	TYPE OF CONNECTORS See next page "available connector types"	INTERMEDIATE CONTACT TYPE See next page connector types

NOTE : POSSIBILITY TO INTEGRATE A BUS TERMINATOR (77 Ω) INSIDE THE COUPLER. In this case, there is only one connector on the bus line. For instance, ADB/A-R43-LP-XX is a coupler with one bus connector, three stub connectors and one terminator inside the housing.



Electrical characteristics

PARAMETERS	REQUIRED	ACTUAL
Nominal line impedance (*)	77 ± 7 Ω	77 ± 7 Ω
Turn ratio	√2 ± 3 %	√2 ± 3 %
CMR	< -45 dB mini at 1 MHz	< -45 dB mini 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 ± 2 %	57.6 Ω ± 1 %
Insulation resistance between :		
- bus / stub	100 MΩ	> 1 000 MΩ at 250 Vdc
- inner contacts / shield	100 MΩ	> 1 000 MΩ at 500 Vdc
Shield continuity	-	50 mΩ maximum.
Shield coverage	Connection 75 %	Connection 100 %
Dielectric withstanding strength :		
- between shield and inner wires	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	PARAMETERS
Operating temperature : -65°C to +150°C	Resistance to salt spray (48 hours) according to EN 2591-307
Weight : < 148 g	MTBF available following MIL-HDBK 217 (environment and operating temperature to be specified)
Excellent vibration and shock resistance	
Excellent resistance to thermal stress	

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	√2 ± 3 %	√2 ± 3 %	√2 ± 3 %
Secondary DC resistance	Rs < 5 Ω	Rs = 2 Ω	Rs < 2.5 Ω
Insulation resistance (winding to winding)	Ri > 100 MΩ	-	Ri > 1 000 MΩ with a 250 Vdc test voltage
Primary open circuit impedance (from 75 kHz to 1 MHz)	Z > 3 kΩ on full temperature operating range	Z > 10 kΩ at 25°C Z > 4.8 kΩ at -65°C Z > 4 kΩ at -85°C	Z ≥ 9.4 kΩ at 25°C (***)
Primary parallel inductance	-	Lp = 22 mH	Lp ≥ 20 mH
Primary parallel capacitance	-	Cp = 10 pF	Cp ≤ 11.4 pF
Inter-winding capacitance	-	Ci = 45 pF	-
Primary leakage inductance	-	-	Lf ≤ 6 μH
Droop (*)	D < 20 %	D = 4.5 % (**)	D < 20 %
Overshoot and ringing (*)	O < ± 1 V	O = 0.3 V (**)	O < ± 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 kΩ at 25°C guarantees 3 kΩ minimum from -65°C to 150°C

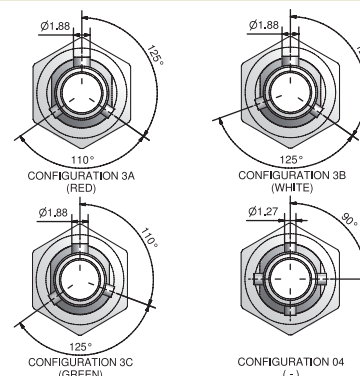
Connector types : AXON' ACB1 series

COUPLER REFERENCE	CONNECTOR TYPE (*)
ADB/A - R53 - LP - BK3A-X with X = S or P (**)	Bayonet 3 lug connector with pin or socket intermediate contact
ADB/A - R53 - LP - BK3B-X with X = S or P (**)	Bayonet 3 lug connector with pin or socket intermediate contact
ADB/A - R53 - LP - BK3C-X with X = S or P (**)	Bayonet 3 lug connector with pin or socket intermediate contact
ADB/A - R53 - LP - BK4-X with X = S or P (**)	Bayonet 4 lug connector with pin or socket intermediate contact
ADB/A - R53- LP - BK01-X with X = S or P (**)	Threaded connector with pin or socket intermediate contact

(*) : Refers to the ACB1 specification to have detailed technical information and half mating connectors.

(**) : The sex of the connector (pin or socket) is given by the intermediate contact.

CORRESPONDING KEYING



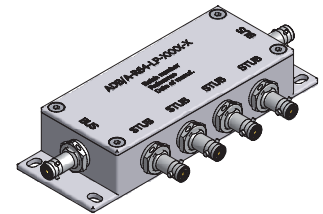
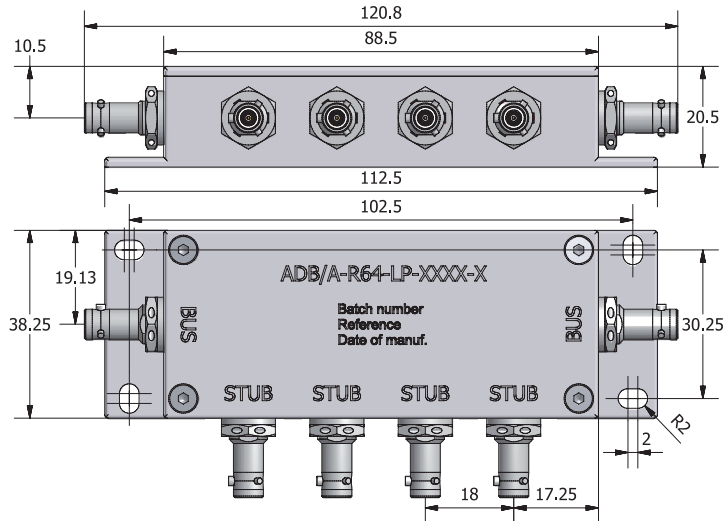
4 way box coupler

LOW
PROFILE
VERSION

ADB / A - R64 - LP - XXXX - X

SPECIFICATIONS

MIL-STD-1553B
SAE AS 4115

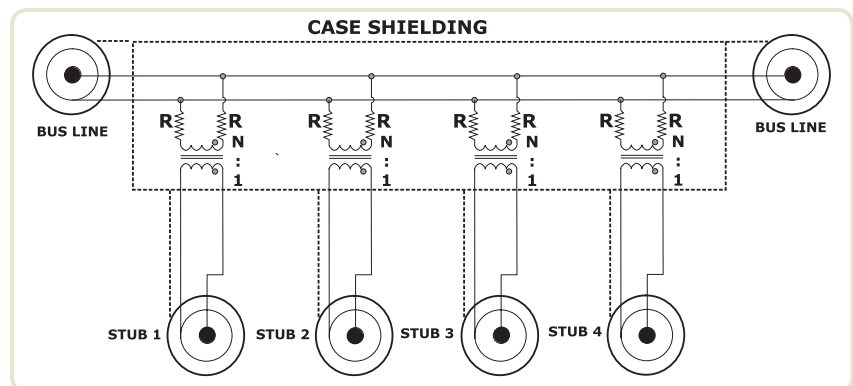


NOTE : customised databus couplers
are available upon request.

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

ADB /	A	R	6	4	LP	XXXX	X
AXON' DATABUS COUPLER	A : AERONAUTICS VERSION (for space applications, please contact us)	REMOVABLE VERSION	NUMBER OF OUTLETS	NUMBER OF STUBS	LOW PROFILE VERSION	TYPE OF CONNECTORS See next page "available connector types"	INTERMEDIATE CONTACT TYPE See next page connector types

NOTE : POSSIBILITY TO INTEGRATE A BUS TERMINATOR (77Ω) INSIDE THE COUPLER. In this case, there is only one connector on the bus line.
For instance, ADB/A-R54-LP-XX is a coupler with one bus connector, four stub connectors and one terminator inside the housing.



Electrical characteristics

PARAMETERS	REQUIRED	ACTUAL
Nominal line impedance (*)	77 ± 7 Ω	77 ± 7 Ω
Turn ratio	√2 ± 3 %	√2 ± 3 %
CMR	< -45 dB mini at 1 MHz	< -45 dB mini 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 ± 2 %	57.6 Ω ± 1 %
Insulation resistance between :		
- bus / stub	100 MΩ	> 1 000 MΩ at 250 Vdc
- inner contacts / shield	100 MΩ	> 1 000 MΩ at 500 Vdc
Shield continuity	-	50 mΩ maximum.
Shield coverage	Connection 75 %	Connection 100 %
Dielectric withstanding strength :		
- between shield and inner wires	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	PARAMETERS
Operating temperature : -65°C to +150°C	Resistance to salt spray (48 hours) according to EN 2591-307
Weight : < 183 g	MTBF available following MIL-HDBK 217 (environment and operating temperature to be specified)
Excellent vibration and shock resistance	
Excellent resistance to thermal stress	

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	√2 ± 3 %	√2 ± 3 %	√2 ± 3 %
Secondary DC resistance	Rs < 5 Ω	Rs = 2 Ω	Rs < 2.5 Ω
Insulation resistance (winding to winding)	Ri > 100 MΩ	-	Ri > 1 000 MΩ with a 250 Vdc test voltage
Primary open circuit impedance (from 75 kHz to 1 MHz)	Z > 3 kΩ on full temperature operating range	Z > 10 kΩ at 25°C Z > 4.8 kΩ at -65°C Z > 4 kΩ at -85°C	Z ≥ 9.4 kΩ at 25°C (***)
Primary parallel inductance	-	Lp = 22 mH	Lp ≥ 20 mH
Primary parallel capacitance	-	Cp = 10 pF	Cp ≤ 11.4 pF
Inter-winding capacitance	-	Ci = 45 pF	-
Primary leakage inductance	-	-	Lf ≤ 6 μH
Droop (*)	D < 20 %	D = 4.5 % (**)	D < 20 %
Overshoot and ringing (*)	O < ± 1 V	O = 0.3 V (**)	O < ± 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 kΩ at 25°C guarantees 3 kΩ minimum from -65°C to 150°C

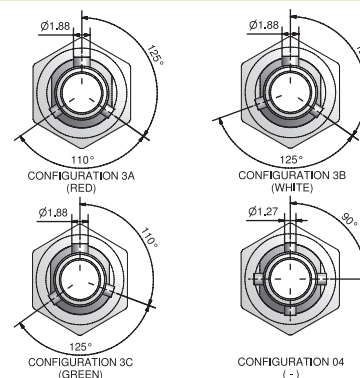
Connector types : AXON' ACB1 series

COUPLER REFERENCE	CONNECTOR TYPE (*)
ADB/A - R64 - LP - BK3A-X with X = S or P (**)	Bayonet 3 lug connector with pin or socket intermediate contact
ADB/A - R64 - LP - BK3B-X with X = S or P (**)	Bayonet 3 lug connector with pin or socket intermediate contact
ADB/A - R64 - LP - BK3C-X with X = S or P (**)	Bayonet 3 lug connector with pin or socket intermediate contact
ADB/A - R64 - LP - BK4-X with X = S or P (**)	Bayonet 4 lug connector with pin or socket intermediate contact
ADB/A - R64 LP - BK01-X with X = S or P (**)	Threaded connector with pin or socket intermediate contact

(*) : Refers to the ACB1 specification to have detailed technical information and half mating connectors.

(**) : The sex of the connector (pin or socket) is given by the intermediate contact.

CORRESPONDING KEYING



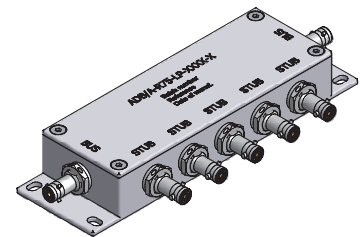
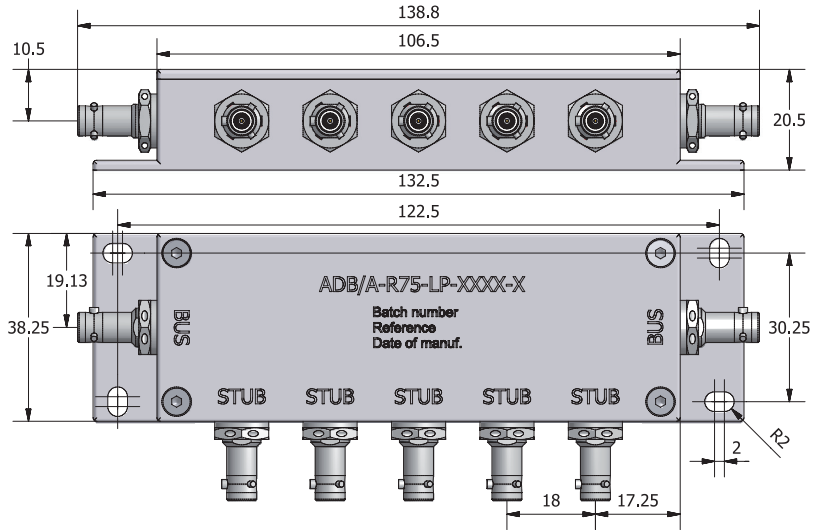
5 way box coupler

**LOW
PROFILE
VERSION**

ADB / A - R75 - LP - XXXX - X

SPECIFICATIONS

MIL-STD-1553B
SAE AS 4115

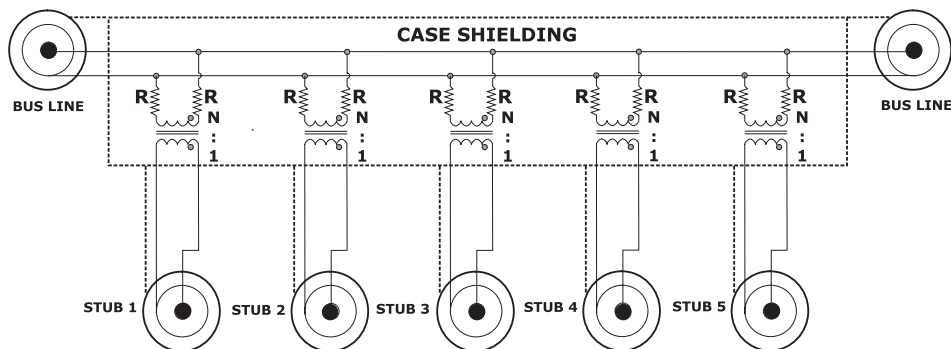


NOTE : customised databus couplers are available upon request.

Electrical scheme

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

DIMENSIONS in mm



Identification code

ADB /	A	R	7	5	LP	XXXX	X
AXON' DATABUS COUPLER	A : AERONAUTICS VERSION (for space applications, please contact us)	REMOVABLE VERSION	NUMBER OF OUTLETS	NUMBER OF STUBS	LOW PROFILE VERSION	TYPE OF CONNECTORS See next page "available connector types"	INTERMEDIATE CONTACT TYPE See next page connector types

NOTE : POSSIBILITY TO INTEGRATE A BUS TERMINATOR (77 Ω) INSIDE THE COUPLER. In this case, there is only one connector on the bus line. For instance, ADB/A-R65-LP-XX is a coupler with one bus connector, five stub connectors and one terminator inside the housing.



Electrical characteristics

PARAMETERS	REQUIRED	ACTUAL
Nominal line impedance (*)	77 ± 7 Ω	77 ± 7 Ω
Turn ratio	√2 ± 3 %	√2 ± 3 %
CMR	< -45 dB mini at 1 MHz	< -45 dB mini 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 Zo ± 2 %	57.6 Ω ± 1 %
Insulation resistance between :		
- bus / stub	100 MΩ	> 1 000 MΩ at 250 Vdc
- inner contacts / shield	100 MΩ	> 1 000 MΩ at 500 Vdc
Shield continuity	-	50 mΩ maximum.
Shield coverage	Connection 75 %	Connection 100 %
Dielectric withstanding strength :		
- between shield and inner wires	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	PARAMETERS
Operating temperature : -65°C to +150°C	Resistance to salt spray (48 hours) according to EN 2591-307
Weight : < 214 g	MTBF available following MIL-HDBK 217 (environment and operating temperature to be specified)
Excellent vibration and shock resistance	
Excellent resistance to thermal stress	

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	√2 ± 3 %	√2 ± 3 %	√2 ± 3 %
Secondary DC resistance	Rs < 5 Ω	Rs = 2 Ω	Rs < 2.5 Ω
Insulation resistance (winding to winding)	Ri > 100 MΩ	-	Ri > 1 000 MΩ with a 250 Vdc test voltage
Primary open circuit impedance (from 75 kHz to 1 MHz)	Z > 3 kΩ on full temperature operating range	Z > 10 kΩ at 25°C Z > 4.8 kΩ at -65°C Z > 4 kΩ at -85°C	Z ≥ 9.4 kΩ at 25°C (***)
Primary parallel inductance	-	Lp = 22 mH	Lp ≥ 20 mH
Primary parallel capacitance	-	Cp = 10 pF	Cp ≤ 11.4 pF
Inter-winding capacitance	-	Ci = 45 pF	-
Primary leakage inductance	-	-	Lf ≤ 6 μH
Droop (*)	D < 20 %	D = 4.5 % (**)	D < 20 %
Overshoot and ringing (*)	O < ± 1 V	O = 0.3 V (**)	O < ± 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 kΩ at 25°C guarantees 3 kΩ minimum from -65°C to 150°C

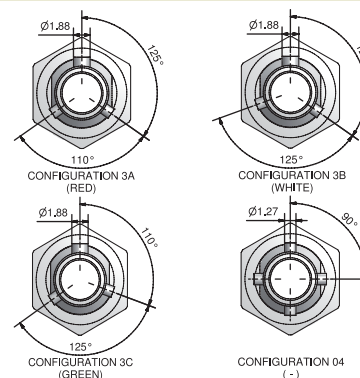
Connector types : AXON' ACB1 series

COUPLER REFERENCE	CONNECTOR TYPE (*)
ADB/A - R75 - LP - BK3A-X with X = S or P (**)	Bayonet 3 lug connector with pin or socket intermediate contact
ADB/A - R75 - LP - BK3B-X with X = S or P (**)	Bayonet 3 lug connector with pin or socket intermediate contact
ADB/A - R75 - LP - BK3C-X with X = S or P (**)	Bayonet 3 lug connector with pin or socket intermediate contact
ADB/A - R75 - LP - BK4-X with X = S or P (**)	Bayonet 4 lug connector with pin or socket intermediate contact
ADB/A - R75 LP - BK01-X with X = S or P (**)	Threaded connector with pin or socket intermediate contact

(*) : Refers to the ACB1 specification to have detailed technical information and half mating connectors.

(**) : The sex of the connector (pin or socket) is given by the intermediate contact.

CORRESPONDING KEYING



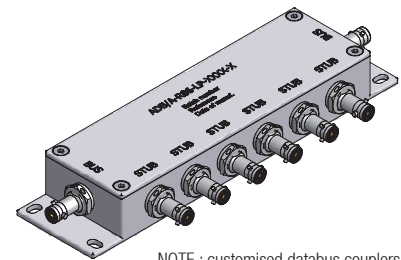
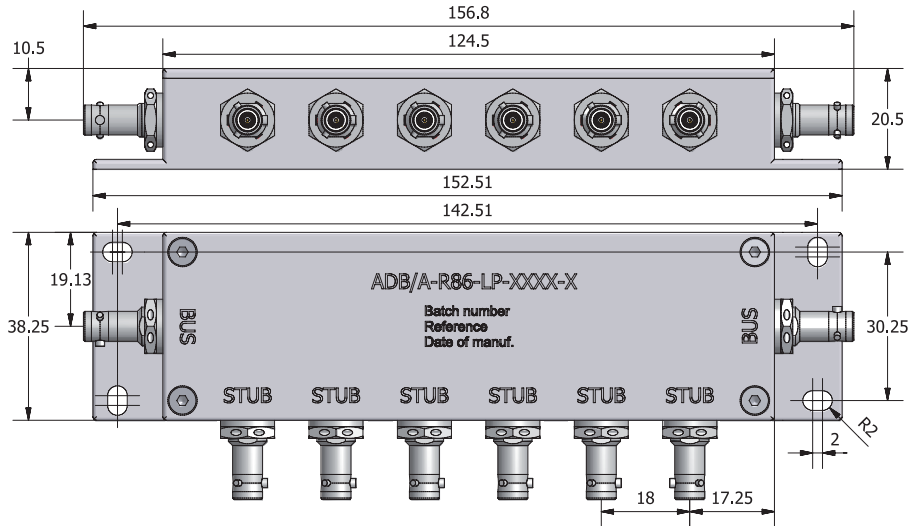
6 way box coupler

LOW PROFILE VERSION

ADB / A - R86 - LP - XXXX - X

SPECIFICATIONS

MIL-STD-1553B
SAE AS 4115

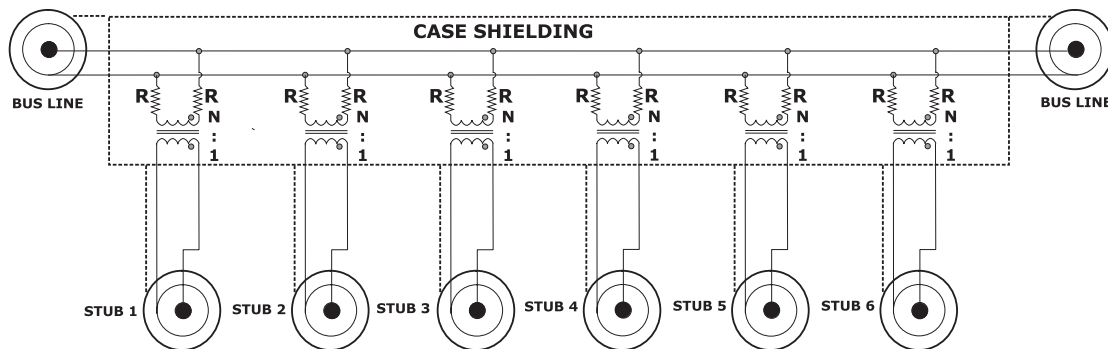


NOTE : customised databus couplers are available upon request.

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

ADB /	A	R	8	6	LP	XXXX	X
AXON' DATABUS COUPLER	A : AERONAUTICS VERSION (for space applications, please contact us)	REMOVABLE VERSION	NUMBER OF OUTLETS	NUMBER OF STUBS	LOW PROFILE VERSION	TYPE OF CONNECTORS See next page "available connector types"	INTERMEDIATE CONTACT TYPE See next page connector types

NOTE : POSSIBILITY TO INTEGRATE A BUS TERMINATOR (77 Ω) INSIDE THE COUPLER. In this case, there is only one connector on the bus line. For instance, ADB/A-R76-LP-XX is a coupler with one bus connector, six stub connectors and one terminator inside the housing.

Electrical characteristics

PARAMETERS	REQUIRED	ACTUAL
Nominal line impedance (*)	77 ± 7 Ω	77 ± 7 Ω
Turn ratio	√2 ± 3 %	√2 ± 3 %
CMR	< -45 dB mini at 1 MHz	< -45 dB mini 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 Zo ± 2 %	57.6 Ω ± 1 %
Insulation resistance between :		
- bus / stub	100 MΩ	> 1 000 MΩ at 250 Vdc
- inner contacts / shield	100 MΩ	> 1 000 MΩ at 500 Vdc
Shield continuity	-	50 mΩ maximum.
Shield coverage	Connection 75 %	Connection 100 %
Dielectric withstanding strength :		
- between shield and inner wires	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	PARAMETERS
Operating temperature : -65°C to +150°C	Resistance to salt spray (48 hours) according to EN 2591-307
Weight : < 248 g	MTBF available following MIL-HDBK 217 (environment and operating temperature to be specified)
Excellent vibration and shock resistance	
Excellent resistance to thermal stress	

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	√2 ± 3 %	√2 ± 3 %	√2 ± 3 %
Secondary DC resistance	Rs < 5 Ω	Rs = 2 Ω	Rs < 2.5 Ω
Insulation resistance (winding to winding)	Ri > 100 MΩ	-	Ri > 1 000 MΩ with a 250 Vdc test voltage
Primary open circuit impedance (from 75 kHz to 1 MHz)	Z > 3 kΩ on full temperature operating range	Z > 10 kΩ at 25°C Z > 4.8 kΩ at -65°C Z > 4 kΩ at -85°C	Z ≥ 9.4 kΩ at 25°C (***)
Primary parallel inductance	-	Lp = 22 mH	Lp ≥ 20 mH
Primary parallel capacitance	-	Cp = 10 pF	Cp ≤ 11.4 pF
Inter-winding capacitance	-	Ci = 45 pF	-
Primary leakage inductance	-	-	Lf ≤ 6 μH
Droop (*)	D < 20 %	D = 4.5 % (**)	D < 20 %
Overshoot and ringing (*)	O < ± 1 V	O = 0.3 V (**)	O < ± 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 kΩ at 25°C guarantees 3 kΩ minimum from -65°C to 150°C

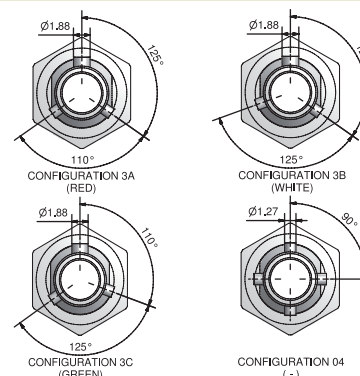
Connector types : AXON' ACB1 series

COUPLER REFERENCE	CONNECTOR TYPE (*)
ADB/A - R86 - LP - BK3A-X with X = S or P (**)	Bayonet 3 lug connector with pin or socket intermediate contact
ADB/A - R86 - LP - BK3B-X with X = S or P (**)	Bayonet 3 lug connector with pin or socket intermediate contact
ADB/A - R86 - LP - BK3C-X with X = S or P (**)	Bayonet 3 lug connector with pin or socket intermediate contact
ADB/A - R86 - LP - BK4-X with X = S or P (**)	Bayonet 4 lug connector with pin or socket intermediate contact
ADB/A - R86 LP - BK01-X with X = S or P (**)	Threaded connector with pin or socket intermediate contact

(*) : Refers to the ACB1 specification to have detailed technical information and half mating connectors.

(**) : The sex of the connector (pin or socket) is given by the intermediate contact.

CORRESPONDING KEYING



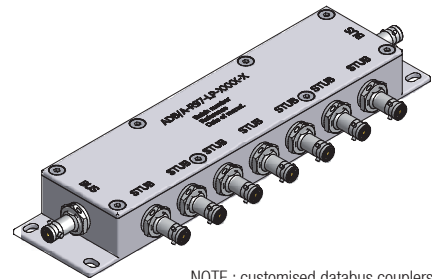
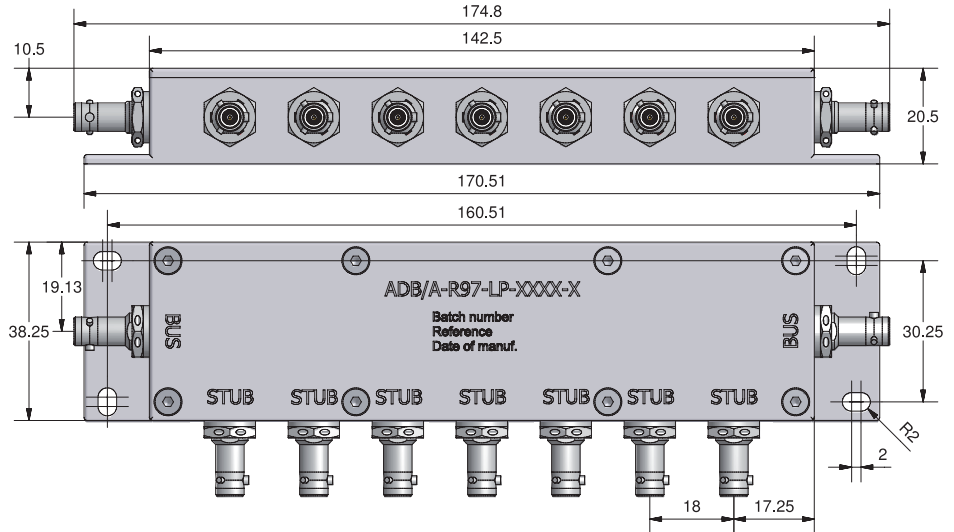
7 way box coupler

**LOW
PROFILE
VERSION**

ADB / A - R97 - LP - XXXX - X

SPECIFICATIONS

MIL-STD-1553B
SAE AS 4115

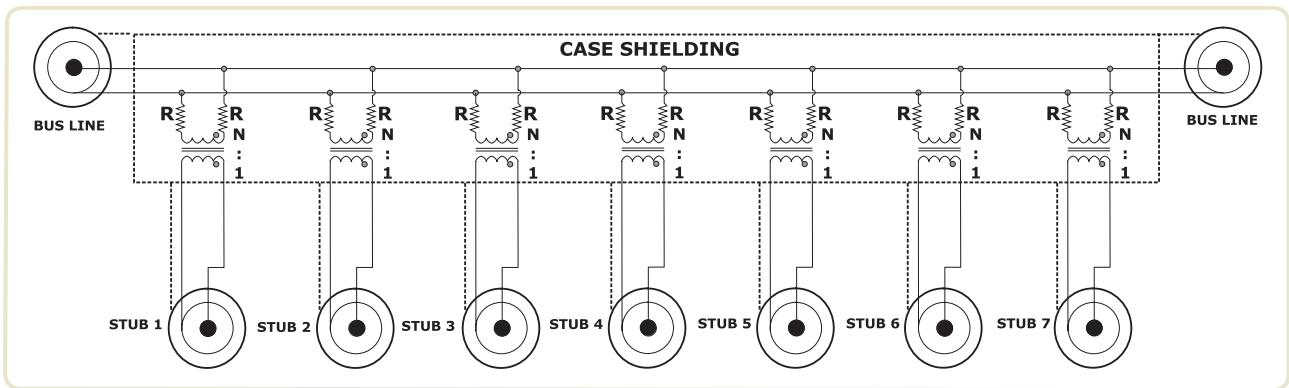


NOTE : customised databus couplers are available upon request.

Electrical scheme

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

DIMENSIONS in mm



Identification code

ADB / A R 9 7 LP XXXX X

AXON' DATABUS COUPLER	A : AERONAUTICS VERSION (for space applications, please contact us)	REMOVABLE VERSION	NUMBER OF OUTLETS	NUMBER OF STUBS	LOW PROFILE VERSION	TYPE OF CONNECTORS See next page "available connector types"	INTERMEDIATE CONTACT TYPE See next page connector types
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NOTE : POSSIBILITY TO INTEGRATE A BUS TERMINATOR (77 Ω) INSIDE THE COUPLER. In this case, there is only one connector on the bus line. For instance, ADB/A-R87-LP-XX is a coupler with one bus connector, seven stub connectors and one terminator inside the housing.

Electrical characteristics

PARAMETERS	REQUIRED	ACTUAL
Nominal line impedance (*)	77 ± 7 Ω	77 ± 7 Ω
Turn ratio	√2 ± 3 %	√2 ± 3 %
CMR	< -45 dB mini at 1 MHz	< -45 dB mini at 1 MHz
Input impedance	> 428 Ω in the frequency range (75 KHz to 1 MHz) and in the indicated temp. range (-65°C to 150°C)	> 428 Ω
Fault protection insulation resistors in series on each bus winding connection	0.75 Zo ± 2 %	57.6 Ω ± 1 %
Insulation resistance between :		
- bus / stub	100 MΩ	> 1 000 MΩ at 250 Vdc
- inner contacts / shield	100 MΩ	> 1 000 MΩ at 500 Vdc
Shield continuity	-	50 mΩ maximum.
Shield coverage	Connection 75 %	Connection 100 %
Dielectric withstanding strength :		
- between shield and inner wires	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	PARAMETERS
Operating temperature : -65°C to +150°C	Resistance to salt spray (48 hours) according to EN 2591-307
Weight : < 283 g	MTBF available following MIL-HDBK 217 (environment and operating temperature to be specified)
Excellent vibration and shock resistance	
Excellent resistance to thermal stress	

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	√2 ± 3 %	√2 ± 3 %	√2 ± 3 %
Secondary DC resistance	Rs < 5 Ω	Rs = 2 Ω	Rs < 2.5 Ω
Insulation resistance (winding to winding)	Ri > 100 MΩ	-	Ri > 1 000 MΩ with a 250 Vdc test voltage
Primary open circuit impedance (from 75 kHz to 1 MHz)	Z > 3 kΩ on full temperature operating range	Z > 10 kΩ at 25°C Z > 4.8 kΩ at -65°C Z > 4 kΩ at -85°C	Z ≥ 9.4 kΩ at 25°C (***)
Primary parallel inductance	-	Lp = 22 mH	Lp ≥ 20 mH
Primary parallel capacitance	-	Cp = 10 pF	Cp ≤ 11.4 pF
Inter-winding capacitance	-	Ci = 45 pF	-
Primary leakage inductance	-	-	Lf ≤ 6 μH
Droop (*)	D < 20 %	D = 4.5 % (**)	D < 20 %
Overshoot and ringing (*)	O < ± 1 V	O = 0.3 V (**)	O < ± 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 kΩ at 25°C guarantees 3 kΩ minimum from -65°C to 150°C

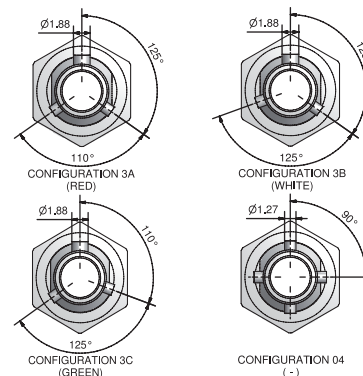
Connector types : AXON' ACB1 series

COUPLER REFERENCE	CONNECTOR TYPE (*)
ADB/A - R97 - LP - BK3A-X with X = S or P (**)	Bayonet 3 lug connector with pin or socket intermediate contact
ADB/A - R97 - LP - BK3B-X with X = S or P (**)	Bayonet 3 lug connector with pin or socket intermediate contact
ADB/A - R97 - LP - BK3C-X with X = S or P (**)	Bayonet 3 lug connector with pin or socket intermediate contact
ADB/A - R97 - LP - BK4-X with X = S or P (**)	Bayonet 4 lug connector with pin or socket intermediate contact
ADB/A - R97 LP - BK01-X with X = S or P (**)	Threaded connector with pin or socket intermediate contact

(*) : Refers to the ACB1 specification to have detailed technical information and half mating connectors.

(**) : The sex of the connector (pin or socket) is given by the intermediate contact.

CORRESPONDING KEYING

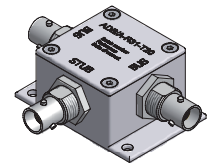
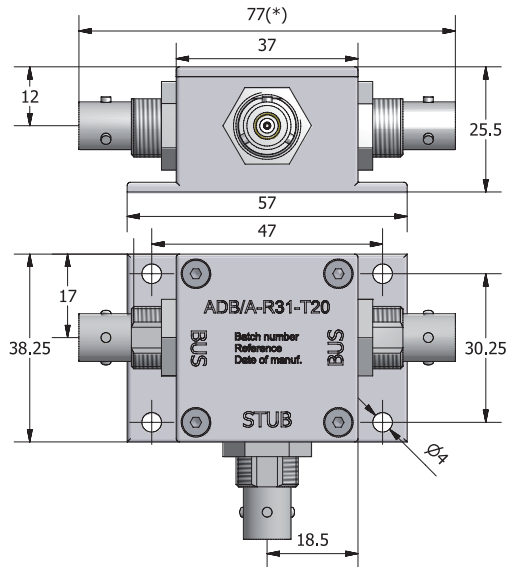


1 way box coupler

ADB / A - R31 - XX

SPECIFICATIONS

MIL-STD-1553B
SAE AS 4115

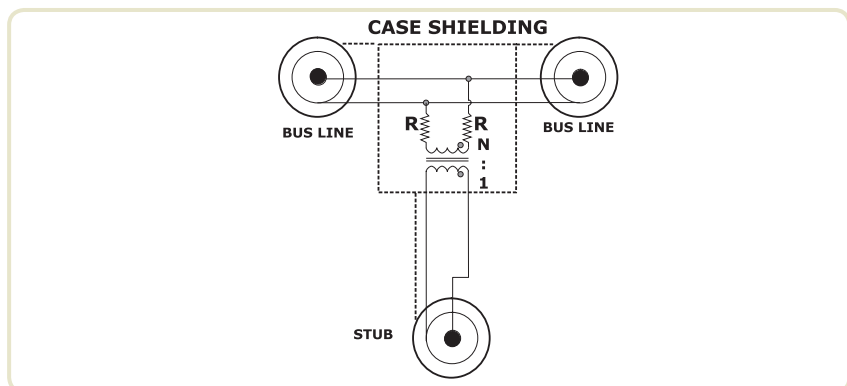


NOTE : customised databus couplers are available upon request.

DIMENSIONS in mm

Electrical scheme

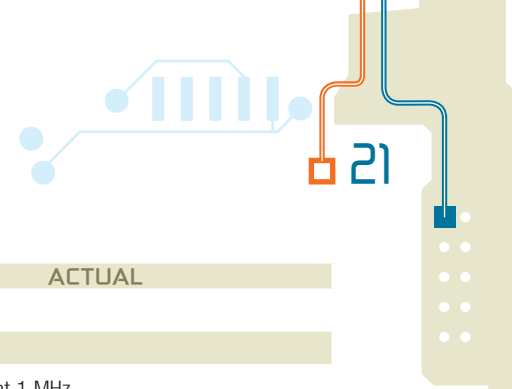
$N = 1.41 \pm 3\%$
R = fault protection resistor
 $R = 0.75 Z_0 = 57.6 \Omega \pm 1\%$



Identification code

ADB /	A	R	3	1	XX
AXON' DATABUS COUPLER	A : AERONAUTICS VERSION (for space applications, please contact us)	REMOVABLE VERSION	NUMBER OF OUTLETS	NUMBER OF STUBS	TYPE OF CONNECTORS See next page "available connector types"

NOTE : POSSIBILITY TO INTEGRATE A BUS TERMINATOR (77 Ω) INSIDE THE COUPLER. In this case, there is only one connector on the bus line. For instance, ADB-R21-XX is a coupler with one bus connector, one stub connector and one terminator inside the housing.



Electrical characteristics

PARAMETERS	REQUIRED	ACTUAL
Nominal line impedance (*)	77 ± 7 Ω	77 ± 7 Ω
Turn ratio	√2 ± 3 %	√2 ± 3 %
CMR	< -45 dB mini at 1 MHz	< -45 dB mini 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 Zo ± 2 %	57.6 Ω ± 1 %
Insulation resistance between :		
- bus / stub	100 MΩ	> 1 000 MΩ at 250 Vdc
- inner contacts / shield	100 MΩ	> 1 000 MΩ at 500 Vdc
Shield continuity	-	50 mΩ maximum.
Shield coverage	Connection 75 %	Connection 100 %
Dielectric withstanding strength :		
- between shield and inner wires	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	PARAMETERS
Operating temperature : -65°C to +150°C	Resistance to salt spray (48 hours) according to EN 2591-307
Weight : < 120 g -T20 version	MTBF available following MIL-HDBK 217 (environment and operating temperature to be specified)
Excellent vibration and shock resistance	
Excellent resistance to thermal stress	

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	√2 ± 3 %	√2 ± 3 %	√2 ± 3 %
Secondary DC resistance	Rs < 5 Ω	Rs = 2 Ω	Rs < 2.5 Ω
Insulation resistance (winding to winding)	Ri > 100 MΩ	-	Ri > 1 000 MΩ with a 250 Vdc test voltage
Primary open circuit impedance (from 75 kHz to 1 MHz)	Z > 3 kΩ on full temperature operating range	Z > 10 kΩ at 25°C Z > 4.8 kΩ at -65°C Z > 4 kΩ at -85°C	Z ≥ 9.4 kΩ at 25°C (***)
Primary parallel inductance	-	Lp = 22 mH	Lp ≥ 20 mH
Primary parallel capacitance	-	Cp = 10 pF	Cp ≤ 11.4 pF
Inter-winding capacitance	-	Ci = 45 pF	-
Primary leakage inductance	-	-	Lf ≤ 6 μH
Droop (*)	D < 20 %	D = 4.5 % (**)	D < 20 %
Overshoot and ringing (*)	O < ± 1 V	O = 0.3 V (**)	O < ± 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 kΩ at 25°C guarantees 3 kΩ minimum from -65°C to 150°C

Available connector types

ADB/A-RXX-T10 - Sub-miniature Trompeter BJ-150 (bayonet 3 lugs)

ADB/A-RXX-T11 - Sub-miniature Trompeter BJ-3150 (threaded)

ADB/A-RXX-T20 - Miniature Trompeter BJ-76 (bayonet 3 lugs)

ADB/A-RXX-T21 - Miniature Trompeter BJ-376 (threaded)

Other connectors can be adapted on request.

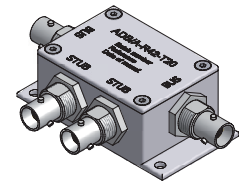
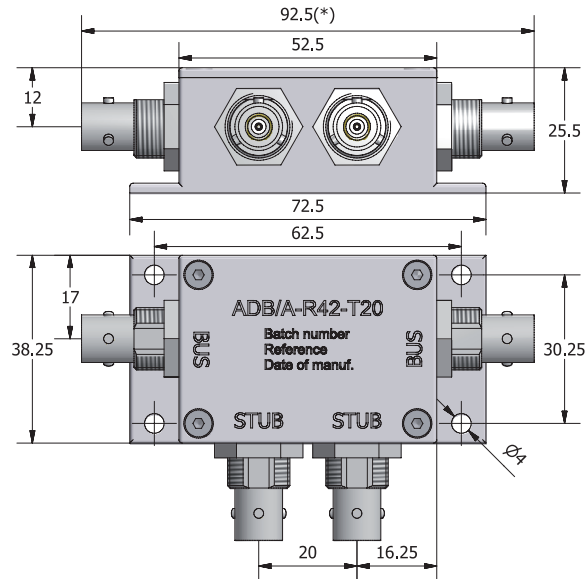


2 way box coupler

ADB / A - R42 - XX

SPECIFICATIONS

MIL-STD-1553B
SAE AS 4115

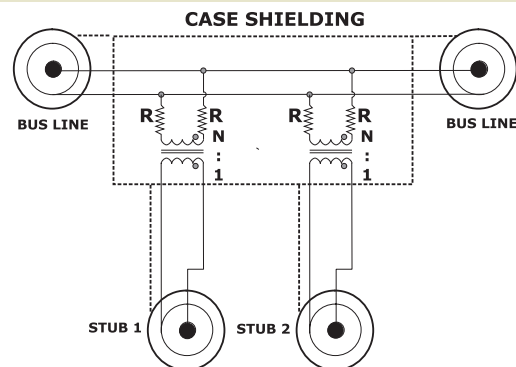


NOTE : customised databus couplers
are available upon request.

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

ADB /	A	R	4	2	XX
AXON' DATABUS COUPLER	A : AERONAUTICS VERSION (for space applications, please contact us)	REMOVABLE VERSION	NUMBER OF OUTLETS	NUMBER OF STUBS	TYPE OF CONNECTORS See next page "available connector types"

NOTE : POSSIBILITY TO INTEGRATE A BUS TERMINATOR (77 Ω) INSIDE THE COUPLER. In this case, there is only one connector on the bus line.
For instance, ADB-R32-XX is a coupler with one bus connector, two stub connector and one terminator inside the housing.

Electrical characteristics

PARAMETERS	REQUIRED	ACTUAL
Nominal line impedance (*)	77 ± 7 Ω	77 ± 7 Ω
Turn ratio	√2 ± 3 %	√2 ± 3 %
CMR	< -45 dB mini at 1 MHz	< -45 dB mini 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 Zo ± 2 %	57.6 Ω ± 1 %
Insulation resistance between :		
- bus / stub	100 MΩ	> 1 000 MΩ at 250 Vdc
- inner contacts / shield	100 MΩ	> 1 000 MΩ at 500 Vdc
Shield continuity	-	50 mΩ maximum.
Shield coverage	Connection 75 %	Connection 100 %
Dielectric withstanding strength :		
- between shield and inner wires	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	PARAMETERS
Operating temperature : -65°C to +150°C	Resistance to salt spray (48 hours) according to EN 2591-307
Weight : < 163 g -T20 version	MTBF available following MIL-HDBK 217 (environment and operating temperature to be specified)
Excellent vibration and shock resistance	
Excellent resistance to thermal stress	

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	√2 ± 3 %	√2 ± 3 %	√2 ± 3 %
Secondary DC resistance	Rs < 5 Ω	Rs = 2 Ω	Rs < 2.5 Ω
Insulation resistance (winding to winding)	Ri > 100 MΩ	-	Ri > 1 000 MΩ with a 250 Vdc test voltage
Primary open circuit impedance (from 75 kHz to 1 MHz)	Z > 3 kΩ on full temperature operating range	Z > 10 kΩ at 25°C Z > 4.8 kΩ at -65°C Z > 4 kΩ at -85°C	Z ≥ 9.4 kΩ at 25°C (***)
Primary parallel inductance	-	Lp = 22 mH	Lp ≥ 20 mH
Primary parallel capacitance	-	Cp = 10 pF	Cp ≤ 11.4 pF
Inter-winding capacitance	-	Ci = 45 pF	-
Primary leakage inductance	-	-	Lf ≤ 6 μH
Droop (*)	D < 20 %	D = 4.5 % (**)	D < 20 %
Overshoot and ringing (*)	O < ± 1 V	O = 0.3 V (**)	O < ± 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 kΩ at 25°C guarantees 3 kΩ minimum from -65°C to 150°C

Available connector types

ADB/A-RXX-T10 - Sub-miniature Trompeter BJ-150 (bayonet 3 lugs)

ADB/A-RXX-T11 - Sub-miniature Trompeter BJ-3150 (threaded)

ADB/A-RXX-T20 - Miniature Trompeter BJ-76 (bayonet 3 lugs)

ADB/A-RXX-T21 - Miniature Trompeter BJ-376 (threaded)

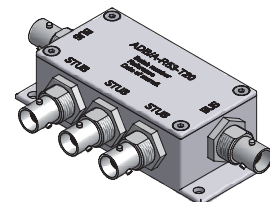
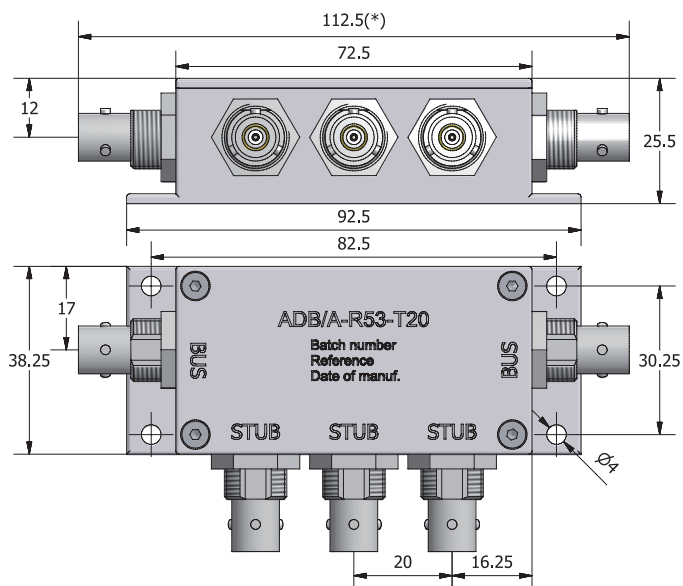
Other connectors can be adapted on request.

3 way box coupler

ADB / A - R53 - XX

SPECIFICATIONS

MIL-STD-1553B
SAE AS 4115

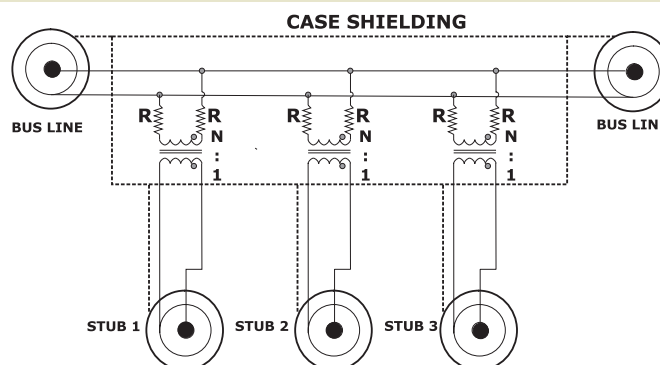


NOTE : customised databus couplers
are available upon request.

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

ADB /	A	R	5	3	XX
AXON' DATABUS COUPLER	A : AERONAUTICS VERSION (for space applications, please contact us)	REMOVABLE VERSION	NUMBER OF OUTLETS	NUMBER OF STUBS	TYPE OF CONNECTORS See next page "available connector types"

NOTE : POSSIBILITY TO INTEGRATE A BUS TERMINATOR (77Ω) INSIDE THE COUPLER. In this case, there is only one connector on the bus line.
For instance, ADB-R43-XX is a coupler with one bus connector, three stub connectors and one terminator inside the housing.



Electrical characteristics

PARAMETERS	REQUIRED	ACTUAL
Nominal line impedance (*)	77 ± 7 Ω	77 ± 7 Ω
Turn ratio	√2 ± 3 %	√2 ± 3 %
CMR	< -45 dB mini at 1 MHz	< -45 dB mini 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 ± 2 %	57.6 Ω ± 1 %
Insulation resistance between :		
- bus / stub	100 MΩ	> 1 000 MΩ at 250 Vdc
- inner contacts / shield	100 MΩ	> 1 000 MΩ at 500 Vdc
Shield continuity	-	50 mΩ maximum.
Shield coverage	Connection 75 %	Connection 100 %
Dielectric withstanding strength :		
- between shield and inner wires	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	PARAMETERS
Operating temperature : -65°C to +150°C	Resistance to salt spray (48 hours) according to EN 2591-307
Weight : < 207 g -T20 version	MTBF available following MIL-HDBK 217 (environment and operating temperature to be specified)
Excellent vibration and shock resistance	
Excellent resistance to thermal stress	

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	√2 ± 3 %	√2 ± 3 %	√2 ± 3 %
Secondary DC resistance	Rs < 5 Ω	Rs = 2 Ω	Rs < 2.5 Ω
Insulation resistance (winding to winding)	Ri > 100 MΩ	-	Ri > 1 000 MΩ with a 250 Vdc test voltage
Primary open circuit impedance (from 75 kHz to 1 MHz)	Z > 3 kΩ on full temperature operating range	Z > 10 kΩ at 25°C Z > 4.8 kΩ at -65°C Z > 4 kΩ at -85°C	Z ≥ 9.4 kΩ at 25°C (***)
Primary parallel inductance	-	Lp = 22 mH	Lp ≥ 20 mH
Primary parallel capacitance	-	Cp = 10 pF	Cp ≤ 11.4 pF
Inter-winding capacitance	-	Ci = 45 pF	-
Primary leakage inductance	-	-	Lf ≤ 6 μH
Droop (*)	D < 20 %	D = 4.5 % (**)	D < 20 %
Overshoot and ringing (*)	O < ± 1 V	O = 0.3 V (**)	O < ± 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 kΩ at 25°C guarantees 3 kΩ minimum from -65°C to 150°C

Available connector types

ADB/A-RXX-T10 - Sub-miniature Trompeter BJ-150 (bayonet 3 lugs)

ADB/A-RXX-T11 - Sub-miniature Trompeter BJ-3150 (threaded)

ADB/A-RXX-T20 - Miniature Trompeter BJ-76 (bayonet 3 lugs)

ADB/A-RXX-T21 - Miniature Trompeter BJ-376 (threaded)

Other connectors can be adapted on request.

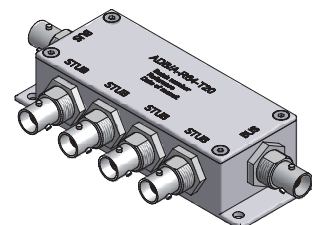
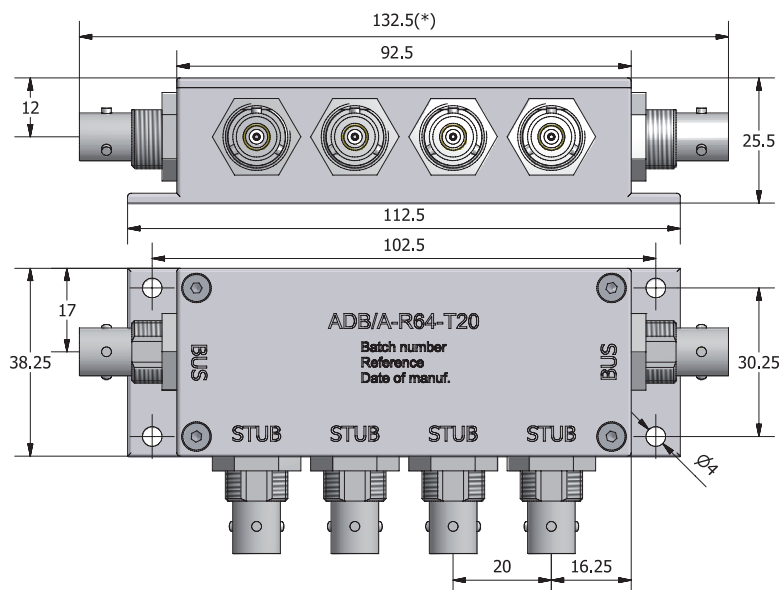


4 way box coupler

ADB / A - R64 - XX

SPECIFICATIONS

MIL-STD-1553B
SAE AS 4115

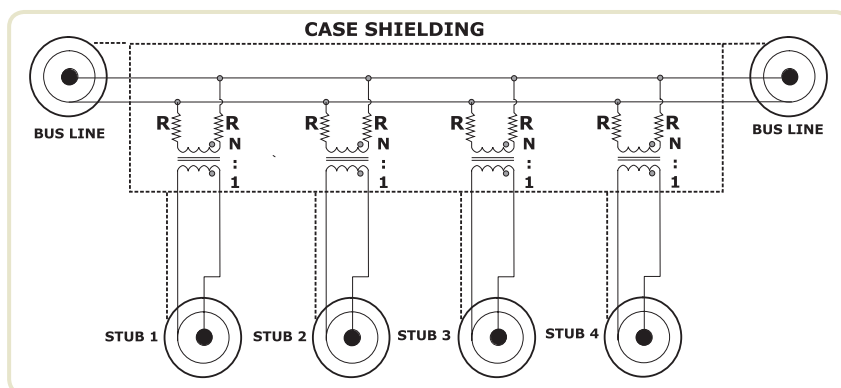


NOTE : customised databus couplers are available upon request.

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

ADB /	A	R	6	4	XX
AXON' DATABUS COUPLER	A : AERONAUTICS VERSION (for space applications, please contact us)	REMOVABLE VERSION	NUMBER OF OUTLETS	NUMBER OF STUBS	TYPE OF CONNECTORS See next page "available connector types"

NOTE : POSSIBILITY TO INTEGRATE A BUS TERMINATOR (77 Ω) INSIDE THE COUPLER. In this case, there is only one connector on the bus line. For instance, ADB-R54-XX is a coupler with one bus connector, four stub connectors and one terminator inside the housing.



Electrical characteristics

PARAMETERS	REQUIRED	ACTUAL
Nominal line impedance (*)	77 ± 7 Ω	77 ± 7 Ω
Turn ratio	√2 ± 3 %	√2 ± 3 %
CMR	< -45 dB mini at 1 MHz	< -45 dB mini 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 ± 2 %	57.6 Ω ± 1 %
Insulation resistance between : - bus / stub - inner contacts / shield	100 MΩ 100 MΩ	> 1 000 MΩ at 250 Vdc > 1 000 MΩ at 500 Vdc
Shield continuity	-	50 mΩ maximum.
Shield coverage	Connection 75 %	Connection 100 %
Dielectric withstanding strength : - between shield and inner wires	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	PARAMETERS
Operating temperature : -65°C to +150°C	Resistance to salt spray (48 hours) according to EN 2591-307
Weight : < 256g -T20 version	MTBF available following MIL-HDBK 217 (environment and operating temperature to be specified)
Excellent vibration and shock resistance	
Excellent resistance to thermal stress	

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	√2 ± 3 %	√2 ± 3 %	√2 ± 3 %
Secondary DC resistance	Rs < 5 Ω	Rs = 2 Ω	Rs < 2.5 Ω
Insulation resistance (winding to winding)	Ri > 100 MΩ	-	Ri > 1 000 MΩ with a 250 Vdc test voltage
Primary open circuit impedance (from 75 kHz to 1 MHz)	Z > 3 kΩ on full temperature operating range	Z > 10 kΩ at 25°C Z > 4.8 kΩ at -65°C Z > 4 kΩ at -85°C	Z ≥ 9.4 kΩ at 25°C (***)
Primary parallel inductance	-	Lp = 22 mH	Lp ≥ 20 mH
Primary parallel capacitance	-	Cp = 10 pF	Cp ≤ 11.4 pF
Inter-winding capacitance	-	Ci = 45 pF	-
Primary leakage inductance	-	-	Lf ≤ 6 μH
Droop (*)	D < 20 %	D = 4.5 % (**)	D < 20 %
Overshoot and ringing (*)	0 < ± 1 V	0 = 0.3 V (**)	0 < ± 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 kΩ at 25°C guarantees 3 kΩ minimum from -65°C to 150°C

Available connector types

ADB/A-RXX-T10 - Sub-miniature Trompeter BJ-150 (bayonet 3 lugs)

ADB/A-RXX-T11 - Sub-miniature Trompeter BJ-3150 (threaded)

ADB/A-RXX-T20 - Miniature Trompeter BJ-76 (bayonet 3 lugs)

ADB/A-RXX-T21 - Miniature Trompeter BJ-376 (threaded)

Other connectors can be adapted on request.

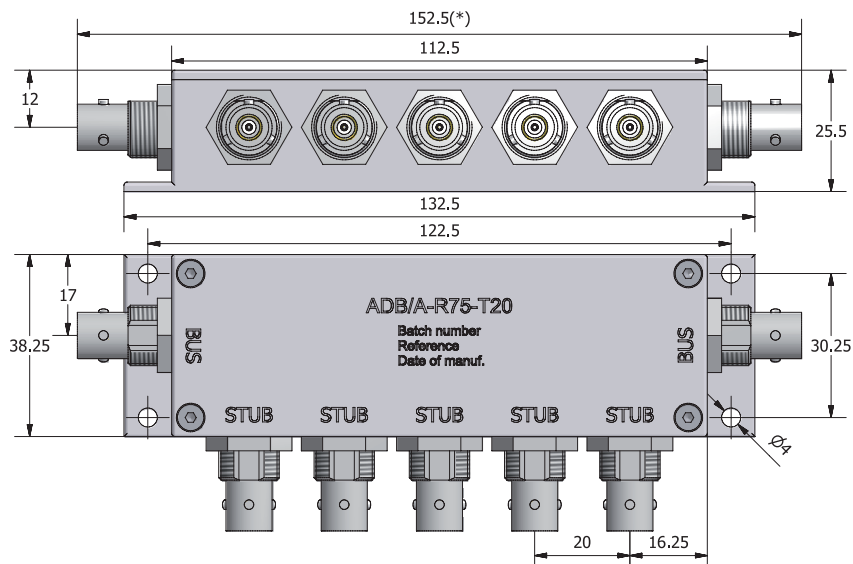


5 way box coupler

ADB / A - R75 - XX

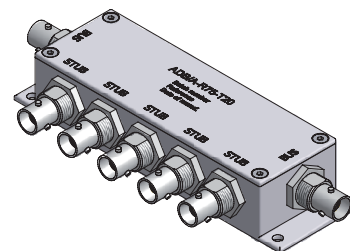
SPECIFICATIONS

MIL-STD-1553B
SAE AS 4115



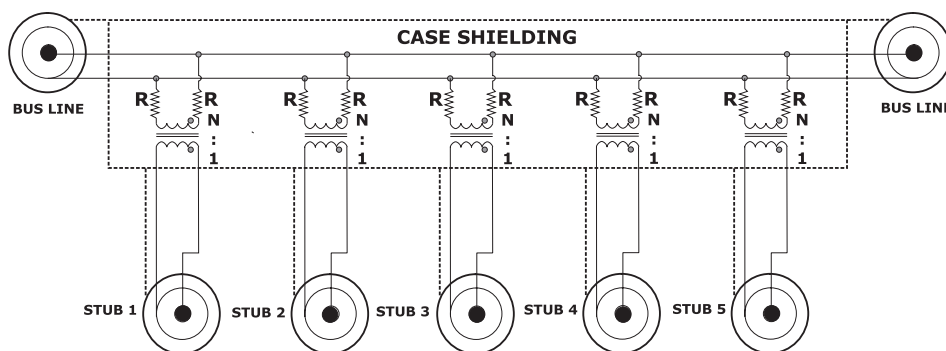
Electrical scheme

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



NOTE : customised databus couplers
are available upon request.

DIMENSIONS in mm



Identification code

ADB /	A	R	7	5	XX
AXON' DATABUS COUPLER	A : AERONAUTICS VERSION (for space applications, please contact us)	REMOVABLE VERSION	NUMBER OF OUTLETS	NUMBER OF STUBS	TYPE OF CONNECTORS See next page "available connector types"

NOTE : POSSIBILITY TO INTEGRATE A BUS TERMINATOR (77Ω) INSIDE THE COUPLER. In this case, there is only one connector on the bus line. For instance, ADB-R65-XX is a coupler with one bus connector, five stub connectors and one terminator inside the housing.

Electrical characteristics

PARAMETERS	REQUIRED	ACTUAL
Nominal line impedance (*)	77 ± 7 Ω	77 ± 7 Ω
Turn ratio	√2 ± 3 %	√2 ± 3 %
CMR	< -45 dB mini at 1 MHz	< -45 dB mini 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 Zo ± 2 %	57.6 Ω ± 1 %
Insulation resistance between :		
- bus / stub	100 MΩ	> 1 000 MΩ at 250 Vdc
- inner contacts / shield	100 MΩ	> 1 000 MΩ at 500 Vdc
Shield continuity	-	50 mΩ maximum.
Shield coverage	Connection 75 %	Connection 100 %
Dielectric withstanding strength :		
- between shield and inner wires	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	PARAMETERS
Operating temperature : -65°C to +150°C	Resistance to salt spray (48 hours) according to EN 2591-307
Weight : < 298g -T20 version	MTBF available following MIL-HDBK 217 (environment and operating temperature to be specified)
Excellent vibration and shock resistance	
Excellent resistance to thermal stress	

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	√2 ± 3 %	√2 ± 3 %	√2 ± 3 %
Secondary DC resistance	Rs < 5 Ω	Rs = 2 Ω	Rs < 2.5 Ω
Insulation resistance (winding to winding)	Ri > 100 MΩ	-	Ri > 1 000 MΩ with a 250 Vdc test voltage
Primary open circuit impedance (from 75 kHz to 1 MHz)	Z > 3 kΩ on full temperature operating range	Z > 10 kΩ at 25°C Z > 4.8 kΩ at -65°C Z > 4 kΩ at -85°C	Z ≥ 9.4 kΩ at 25°C (***)
Primary parallel inductance	-	Lp = 22 mH	Lp ≥ 20 mH
Primary parallel capacitance	-	Cp = 10 pF	Cp ≤ 11.4 pF
Inter-winding capacitance	-	Ci = 45 pF	-
Primary leakage inductance	-	-	Lf ≤ 6 μH
Droop (*)	D < 20 %	D = 4.5 % (**)	D < 20 %
Overshoot and ringing (*)	O < ± 1 V	O = 0.3 V (**)	O < ± 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 kΩ at 25°C guarantees 3 kΩ minimum from -65°C to 150°C

Available connector types

ADB/A-RXX-T10 - Sub-miniature Trompeter BJ-150 (bayonet 3 lugs)

ADB/A-RXX-T11 - Sub-miniature Trompeter BJ-3150 (threaded)

ADB/A-RXX-T20 - Miniature Trompeter BJ-76 (bayonet 3 lugs)

ADB/A-RXX-T21 - Miniature Trompeter BJ-376 (threaded)

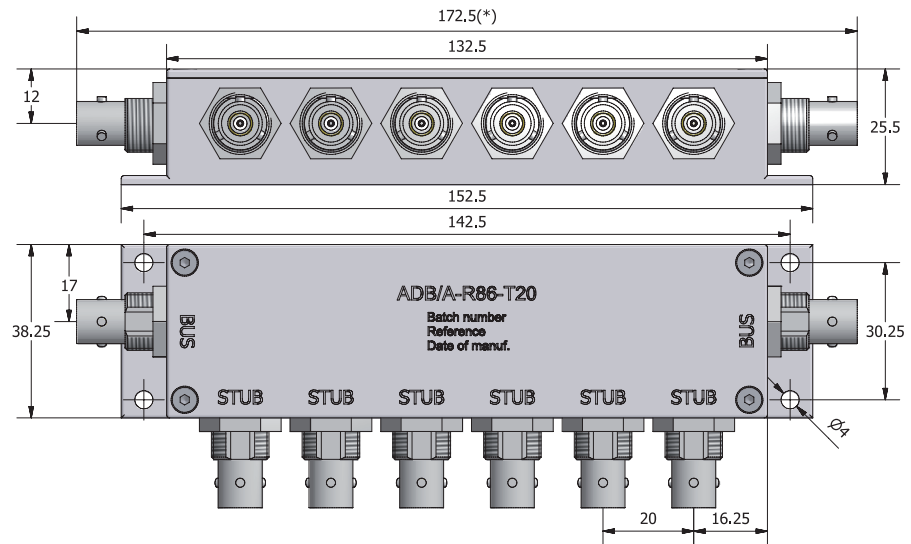
Other connectors can be adapted on request.

6 way box coupler

ADB / A - R86 - XX

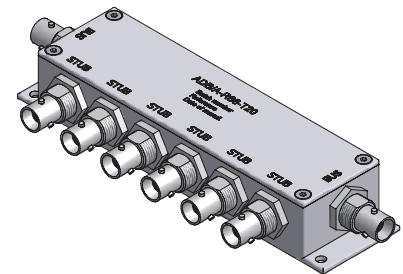
SPECIFICATIONS

MIL-STD-1553B
SAE AS 4115



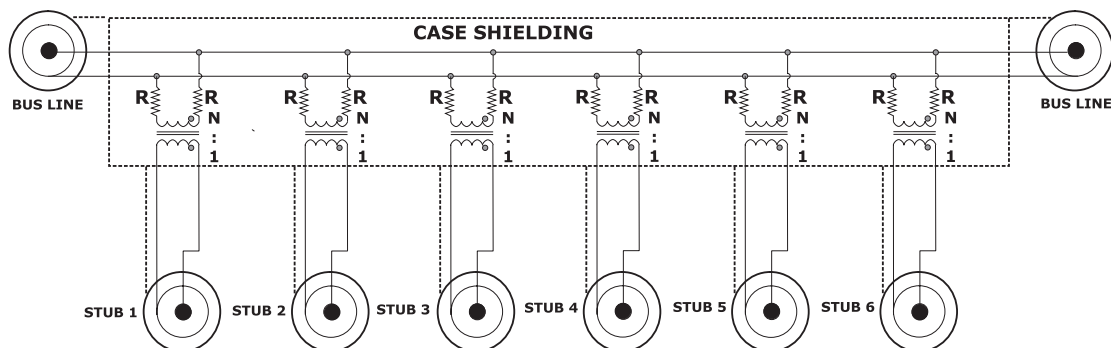
Electrical scheme

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



NOTE : customised databus couplers
are available upon request.

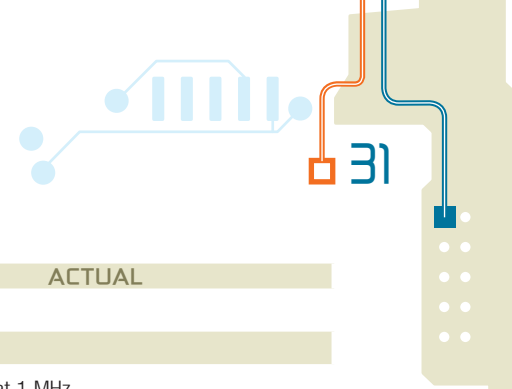
DIMENSIONS in mm



Identification code

ADB /	A	R	8	6	XX
AXON' DATABUS COUPLER	A : AERONAUTICS VERSION (for space applications, please contact us)	REMOVABLE VERSION	NUMBER OF OUTLETS	NUMBER OF STUBS	TYPE OF CONNECTORS See next page "available connector types"

NOTE : POSSIBILITY TO INTEGRATE A BUS TERMINATOR (77 Ω) INSIDE THE COUPLER. In this case, there is only one connector on the bus line.
For instance, ADB-R76-XX is a coupler with one bus connector, six stub connectors and one terminator inside the housing.



Electrical characteristics

PARAMETERS	REQUIRED	ACTUAL
Nominal line impedance (*)	77 ± 7 Ω	77 ± 7 Ω
Turn ratio	√2 ± 3 %	√2 ± 3 %
CMR	< -45 dB mini at 1 MHz	< -45 dB mini 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 Zo ± 2 %	57.6 Ω ± 1 %
Insulation resistance between : - bus / stub - inner contacts / shield	100 MΩ 100 MΩ	> 1 000 MΩ at 250 Vdc > 1 000 MΩ at 500 Vdc
Shield continuity	-	50 mΩ maximum.
Shield coverage	Connection 75 %	Connection 100 %
Dielectric withstanding strength : - between shield and inner wires	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	PARAMETERS
Operating temperature : -65°C to +150°C	Resistance to salt spray (48 hours) according to EN 2591-307
Weight : < 344g -T20 version	MTBF available following MIL-HDBK 217 (environment and operating temperature to be specified)
Excellent vibration and shock resistance	
Excellent resistance to thermal stress	

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	√2 ± 3 %	√2 ± 3 %	√2 ± 3 %
Secondary DC resistance	Rs < 5 Ω	Rs = 2 Ω	Rs < 2.5 Ω
Insulation resistance (winding to winding)	Ri > 100 MΩ	-	Ri > 1 000 MΩ with a 250 Vdc test voltage
Primary open circuit impedance (from 75 kHz to 1 MHz)	Z > 3 kΩ on full temperature operating range	Z > 10 kΩ at 25°C Z > 4.8 kΩ at -65°C Z > 4 kΩ at -85°C	Z ≥ 9.4 kΩ at 25°C (***)
Primary parallel inductance	-	Lp = 22 mH	Lp ≥ 20 mH
Primary parallel capacitance	-	Cp = 10 pF	Cp ≤ 11.4 pF
Inter-winding capacitance	-	Ci = 45 pF	-
Primary leakage inductance	-	-	Lf ≤ 6 μH
Droop (*)	D < 20 %	D = 4.5 % (**)	D < 20 %
Overshoot and ringing (*)	O < ± 1 V	O = 0.3 V (**)	O < ± 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 kΩ at 25°C guarantees 3 kΩ minimum from -65°C to 150°C

Available connector types

ADB/A-RXX-T10 - Sub-miniature Trompeter BJ-150 (bayonet 3 lugs)

ADB/A-RXX-T11 - Sub-miniature Trompeter BJ-3150 (threaded)

ADB/A-RXX-T20 - Miniature Trompeter BJ-76 (bayonet 3 lugs)

ADB/A-RXX-T21 - Miniature Trompeter BJ-376 (threaded)

Other connectors can be adapted on request.



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