

UIC Code

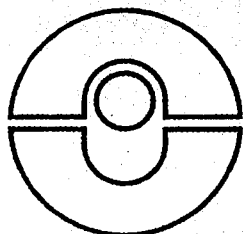
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1st edition, 1.1.96

Remote control and data cable

**Standard technical features for the
equipping of RIC coaches**



International Union of Railways

OR

Leaflet to be classified in volumes :

- IV - Operating
- V - Transport stock
- VII - Way and Works
- VIII - Technical specifications

Amendments

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Preliminary remarks :

Obligatory provisions are preceded by an asterisk : *

A double vertical line (||) in the margin denotes amendments made on the date shown at the foot of the page.

Enforcement of this leaflet is governed by the provisions listed under "Application" at the end of the document.

Note

This leaflet forms part of a series which also includes :

- Leaflet 440 - Loudspeaker systems in RIC coaches.
- Leaflet 555 - Electric lighting in passenger rolling stock.
- Leaflet 556 - Data transmission in the train (train bus).
- Leaflet 560 - Doors, entrance platforms, windows, steps, handles and handrails of coaches and luggage vans.
- Leaflet 568 - Loudspeaker and telephone systems in RIC coaches.
- Leaflet 648 - Connections for electric cables and air pipes on headstocks of motive power units.
- Leaflet 751-3 - Regulations for international ground-to-train radio systems.
- Leaflet 895 - Technical specification for the supply of insulated electric cables for railway vehicles.

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2 - Cables

3 - Couplings

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Plate 2 : Layout of the 18-conductor flexible cable

Plate 3 : Layout of the 16-conductor transit cable

Plate 4 : Layout of the double-conductor screened cable

Plate 5 : Measurement of the psophometric voltage - CCITT weighting curves

Plate 6 : Connection layout

Plate 7.1 : 18-pin coupler

Plate 7.2 : 18-pin coupler socket

Plate 7.3 : 18-pin connector

Plate 8 : Wiring diagram

***1 - General**

1.1 - These provisions specify the characteristics to be met by remote control and data cables in RIC passenger coaches.

These provisions also apply to installation in traction units.

1.2 - The remote control and data cable is comprised of the following elements:

- flexible cables, connected to 18-pin couplers, together with 18-pin coupler sockets at each end wall,
- multi-pin connection points inside the coach in the end wall area,
- a multi-core transit cable inside the coach between the connection points in the end wall area,
- a double-conductor screened cable, with redundant capacity, between the connection points in the end wall area and the connections of the data communication system,
- connection lines from the connection points in the end wall area to the control box and to the public address system in accordance with UIC Leaflet 568.

1.3 - The cable has the following functions

1.3.1 - The function, assignment and numbering of the individual conductors are set out in Plate 1.

1.3.2 - Two quads serve for signal transmission and remote control for the public address system and voice communication between the traction unit and the coaches (Leaflet 568).

1.3.3 - One quad serves for remote control of the lighting and remote closing of the doors (Leaflets 555 and 560).

1.3.4 - Three conductors provide for central door locking and feedback from closed doors (Leaflet 560, under revision).

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1.3.5 - The double-conductor screened cables are used for the transmission of binary data (in accordance with UIC Leaflet 556).

1.4 - Plate 8 shows the connection of cables, coupler fittings and connection points for the cable.

Their layout relative to the vehicle ends and sides is shown in Plate 6.

2 - Cables***2.1 - Layout and mechanical properties of the flexible cable**

*2.1.1 - The flexible cable is comprised of:

- 16 conductors, arranged as four quads
- a double-conductor screened cable
- a common screen
- a common sheath.

2.1.2 - The cross-section of each of the 16 fine-strand conductors is 1 mm^2 . The cross-section of the cores of the double-conductor screened cable is 0.75 mm^2 .

The quads are star quads, i.e. the centre-line through a pair of conductors is at all points perpendicular to the axis through the other pair, in order to reduce any interaction between them.

2.1.3 - The layout and characteristic technical parameters of the cable shall conform to Plate 2.

2.1.4 - The insulation of the conductors and of the outer sheath for the cable between coaches shall be weather-resistant, and capable of withstanding temperatures from -40°C up to $+90^\circ\text{C}$, without any significant effects on the mechanical properties of the cable.

2.1.5 - The insulation materials of the cable shall be resistant to:

- fire: testing to IEC 332-1 (1)
- ozone: testing to IEC 811-2-1 Article 8 (1)
- hydrocarbons: testing in accordance with UIC leaflet 895, clause 43.2.2 (1).

The outer sheath should also be resistant to acid (standard solution of hydrochloric acid) and basic cleaning agent (standard solution of caustic soda).

2.1.6 - The flexible cable shall be designed to withstand a tensile force of at least 1500 N.

The assembly of the cores in the quads and of the quads themselves, also of the two-conductor screened cable, should be flexible, so that cores and quads may slide longitudinally.

2.2 - Layout and mechanical properties of the transit cable

*2.2.1 - The transit cable is comprised of at least 15 fine-strand conductors, arranged as a minimum of three quads and three conductors in a common sheath with screen.

Given the design of the cable, the addition of a 16th conductor to form a fourth quad is permissible.

*2.2.2 - The cross-section of each of the conductors is 1 mm².

The quads are star quads, i.e. the centre-line through a pair of conductors is at all points perpendicular to the axis through the other pair, in order to reduce any interaction between them.

2.2.3 - An example of the layout of the cable is shown in Plate 3.

*2.2.4 - The characteristic technical parameters of the transit cable shall conform to Plate 3.

(1) EN standard in preparation by CENELEC TC 20 WG 12

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***2.2.5 - The insulation materials of the cable shall be resistant to:**

- fire: testing to IEC 332-1 (1)
- ozone: testing to IEC 811-2-1 Article 8 (1)

***2.3 - Layout and mechanical properties of the double-conductor screened cable**

***2.3.1 - The cable is comprised of two twisted conductors, with a screen and an outer sheath. The twisting shall comprise at least 12 turns per metre.**

2.3.2 - The cross-section of each of the conductors shall be 0.75 mm².

2.3.3 - The layout and characteristic technical parameters of the cable shall conform to Plate 4.

2.3.4 - The insulation materials of the cable shall be resistant to:

- fire: testing to IEC 332-1 (1)
- ozone: testing to IEC 811-2-1 Article 8 (1)

***2.4 - Electrical properties and test conditions of the flexible cable (excluding the integrated double-conductor screened cable) and the transit cable**

2.4.1 - The common screen of the cable shall be insulated from the mass of the passenger coach.

2.4.2 - In operation, the insulation resistance of each conductor of the through cable installed in a passenger coach (from the coupler plug or coupler socket at coach end 1 to the coupler plug or coupler socket at coach end 2) shall not exceed 10 M Ω relative to other conductors and to the outer sheath. The measurement shall be made with 500 volts d.c. voltage.

2.4.3 - Dielectric testing between conductors, between conductor and screen, and between screen/outer covering/mass, shall be effected at a voltage of at least 1500 V 50 Hz for a period of 15 minutes.

(1) EN standard in preparation by CENELEC TC 20 WG 12

The longitudinal symmetry of the ohmic resistances, the capacitances and the inductivities between conductor pairs shall not vary by more than 4% over a line length of 25 m.

The impedance measured between the conductors and the braiding of the outer screen shall not exceed 10 m Ω /m (-40 dB) at frequencies up to 500 kHz.

2.4.4 - The conductors for the public address system and the telephone equipment shall not be subject to interference.

2.4.5 - When all electrical loads, e.g. lighting, heating, air-conditioning, door controls and inverters and the associated control units are switched on, and when applicable data transmission is taking place, the following noise voltage levels shall not be exceeded:

2.4.5.1 - On conductors 1 and 2:

- in a single coach max 6mV
- for a 20-coach train (1) max 18mV

These figures correspond to a signal-to-noise ratio of roughly 50 dB and roughly 40 dB respectively.

2.4.5.2 - On conductors 3 and 4:

- in a single coach max 12mV
- for a 20-coach train (1) max 18mV

These figures correspond to a signal-to-noise ratio of roughly 35 dB and roughly 25 dB respectively.

2.4.5.3 - The levels are to be established by high-resistance measurement using a noise voltage meter (psophometer) in accordance with the CCITT "sound transmission" weighting curve (Plate 5).

This weighting curve permits the evaluation of the interference in terms of aural sensitivity.

These levels shall be observed when the electrical installations of the vehicle are produced.

(1) in accordance with UIC Leaflet 568, para 3.3

O R***2.5 - Electrical properties and test conditions for the double-conductor screened cable**

2.5.1 - These conditions apply both to the double-conductor screened cable integrated in the flexible cable as shown in Plate 2, and also to the separate double-conductor screened cable according to Plate 4.

2.5.2 - The screen covering of the cable shall be so constructed that the transfer impedance values specified in Plates 2 and 4 are ensured. The screen covering at the cable connections shall provide 80% coverage.

2.5.3 - The two conductors of the cable shall be designated X and Y, and the screen shall be S. The X conductor shall be white and the Y conductor black. This identification shall be retained at all cable connection points.

2.5.4 - Line impedance (characteristic impedance) shall be 120Ω (+/-10%), measured with a sinusoidal signal of a frequency between 0.5 and 2.0 MHz.

2.5.5 - The distributed capacitance of the cable between the individual conductors X and Y shall not exceed 65 pF/m @ 1 MHz.

The symmetry between conductor capacitance and the screen shall not exceed 120 pF/m @ 1 Mhz.

2.5.6 - Line losses between transmitter and receiver (transmission loss) shall be less than 10 dB/km measured with a sinusoidal signal of 1.0 MHz and less than 14 dB/km at 2.0 MHz.

2.5.7 - The screen of the double conductor cable shall not be connected, either at the coupler fittings or at the contact points, to the vehicle mass or to the outer screen of the flexible cable and the transit cable (Plate 8).

***3 - Couplings**

3.1 - Plate 6 shows the vehicle end layout of the coupler socket and the dummy socket together with the flexible cable terminating in the coupler plug, and also the length of the flexible cable.

The coupler socket, dummy socket and flexible cable shall be fixed to the outside of the coach end in such a way that they do not interfere with operation of the end doors.

3.2 - The coupler socket and the coupler plug shall conform to the dimensions and notes of Plates 7.1 to 7.3. The diagrams in the plates are intended as examples.

3.3 - The cover of the 18-pin coupler socket shall be permanently marked on the outside with a horizontal red strip, at least 15 mm wide, of RAL 3000 to RAL 3024. The plug shall be similarly identified by a ring in its centre. It is acceptable for the ring marking to be broken.

3.4 - The dimensions of contact pins and sockets to be observed are set out in Plates 7.1 and 7.2.

3.4.1 - The volume resistance of the plugged-in coupler shall be less than 4 m Ω from the crimp point in the coupler plug to the crimp point in the coupler socket.

3.4.2 - After 10 000 instances of coupling and uncoupling with the same plug, the contact jacks of the coupler socket shall still make satisfactory contact with the contact pins. The volume resistance may then exceed that specified under 3.4.1 by no more than a factor of two.

3.5 - The normal withdrawal force for the coupler plug shall be between 100 N and 250 N.

3.6 - The complete connector assembly shall be so designed that, with the coupler plug inserted (the fingers of the coupler socket cover hold the coupler plug in place as shown in Plate 7.3), it is able to withstand a minimum tensile force of 500 N without damage. At the same time the plug shall remain unaffected in the socket. No force may act on the connection points between conductors and contacts (crimp connections).

3.7 - The connector assembly shall be capable of uncoupling in an emergency, as soon as forces in excess of 500 N are exerted on the flexible cable in one direction, diverging less than 15° from the longitudinal axis of the coach and less than 5° from the horizontal plane.

3.8 - The coupler assembly when coupled, and the coupler socket with the cover closed, shall have IP54 protection in conformity with EN 60 259.

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3.9 - The common screen of the cables in accordance with 2.1 and 2.2 above shall be connected within and between the coaches via pin 13 of the coupler plug and contact 13 of the coupler socket. If the coupler plug and socket have metal housings, it shall be insulated from the latter.

3.10 - Mode of coupling

3.10.1 - When uncoupled, the coupler plug of the flexible cable shall be inserted in a dummy socket, so as to prevent the connector pins from becoming damaged or dirty, and to avoid damage to the flexible cable itself.

Insertion of the coupler plug in the coupler socket on the same end of the same coach (use as dummy socket) shall not be permitted.

3.10.2 - Assuming that data transmission through the train is effected in accordance with UIC Leaflet 556, both cables shall be coupled between the traction unit and the next passenger coach, and also between all other passenger coaches.

3.10.3 - It is possible to insert the 13-pin coupler plug (no red marking) of older coaches into the 18-pin coupler socket conforming to UIC Leaflet 558 (with red marking), thereby ensuring the following functions in the train:

- the public address system and telephone installation in accordance with UIC Leaflet 568
- remote control of the lighting in accordance with UIC Leaflet 555, and
- remote control of door closing in accordance with UIC Leaflet 560.

Obligatory function, assignment and numbering of conductors

1	2	3	4	5	6	7	8
Conductor pair	Function	Voltage type	Level	Signal duration/frequency	Remarks	Source	
1	2	"NF" link to main amplifiers	AC	2 V _{eff}	100...8000 Hz		UIC Leaflet 568
3 (-)	4 (+)	Telephone links to driver	DC	18...33 V	Continuous signal		
3	4	• Control signal	AC	0.5 V _{eff}	100...5000 Hz	I < 50 mA at 24 V	UIC Leaflet 568
3	4	• Sending	AC	0.775 V _{eff}	100...5000 Hz		
3	4	• Receiving	AC				
3 (+)	4 (-)	Telephone links to control centre	DC	18...33 V	Continuous signal		
3	4	• Control signal	AC	< 1.2 V _{eff}	100...5000 Hz	I < 50 mA at 24 V	UIC Leaflet 568
3	4	• Sending	AC	< 1.6 V _{eff}	100...5000 Hz		
3	4	• Receiving	AC				
5 (+)	6 (-)	Switching on the public address system	DC	18...33 V	Continuous signal	I < 20 mA at 24 V	UIC Leaflet 568
7 (+)	8 (-)	Priority for announcements	DC	18...33 V	Continuous signal	I < 22 mA at 24 V	UIC Leaflet 568
9 (+)	12 (-)	Remote closing of the doors	DC	15...33 V	Pulse	Impedance > 1200 Ω/coach	UIC Leaflet 560
10 (+)	12 (-)	Remote control: lighting "on"	DC	15...33 V	Pulse < 2 sec.	Impedance > 1200 Ω/coach	UIC Leaflet 555
11 (+)	12 (-)	Remote control: lighting "off"	DC	15...33 V	Pulse < 2 sec.	Impedance > 1200 Ω/coach	UIC Leaflet 555
14 (+)	12 (-)	Release left-hand doors	DC	15...33 V	Pulse < 2 sec.	Impedance > 1200 Ω/coach	Note on conductors 14,15,16;
15 (+)	12 (-)	Release right-hand doors	DC	15...33 V	Pulse < 2 sec.	Impedance > 1200 Ω/coach	Functions of the conductors are defined in Leaflet 560.
16	12 (-)	Response: all train doors closed	DC			Closed circuit via conductor 12	International application currently under examination by SC 45 A
17 / X	18 / Y	Data cable	AC	6 V _{pp} ...9 V _{pp} Fritting voltage optional	1 Mbit/sec.	Twisted wire pair/characteristic impedance 120 Ω +/-10%; symm. capacity 65 pF/m	UIC Leaflets 558 and 556
S		Screen for cable 17/18					UIC Leaflet 558
13		Common screen for all conductors					UIC Leaflet 558

Details of additional functions which individual railways may specify internally for the remote control and data cable: assignment and numbering of the conductors

1	2	3	4	5	6	7	8
Conductor pair	Conductor pair	Function	Voltage type	Level	Signal duration/frequency	Remarks	User(s)
9 (-)	12 (+)	Override emergency brake	DC	15...33 V	Pulse < 30 sec.	Priority over signals on conductors 9(+) and 12(-)	DB, ÖBB, CFF
10 (-)	12 (+)	EP braking	DC	15...33 V	Pulse < 20 sec.	Priority over signals on conductors 10(+) and 12(-)	DB, ÖBB, CFF
11 (-)	12 (+)	EP brake release	DC	15...33 V	Pulse < 60 sec.	Priority over signals on conductors 11(+) and 12(-)	DB, ÖBB, CFF
9	10	Emergency braking message	AC	2 V _{eff}	1 000 Hz	Continuous signal 2 V _{eff} , 1 kHz from loco on conductors 9/10. When the emergency brake is actuated in a vehicle, this signal is short-circuited in the vehicle concerned.	DB, ÖBB, CFF
10	11	Time-multiplex traction unit control (ZWS, ZMS, ZDS) Message channel Command channel	AC AC	< 950 mV _{eff} < 950 mV _{eff}	96 kHz 120 kHz	Locomotive control in push-pull operation. Use of two locomotives or different types of traction.	DB
10	11	ZWS supplementary function Information channel "Doors closed" message	AC AC	< 600 mV _{eff} < 600 mV _{eff}	69.6 kHz 165 kHz	Control and monitoring of vehicle functions, e. g. doors.	DB
7(+)	12	Indication of direction of actuated emergency brake	DC	15V...33V	Pulse	Temporary interruption of P.A. system operation.	SNCB

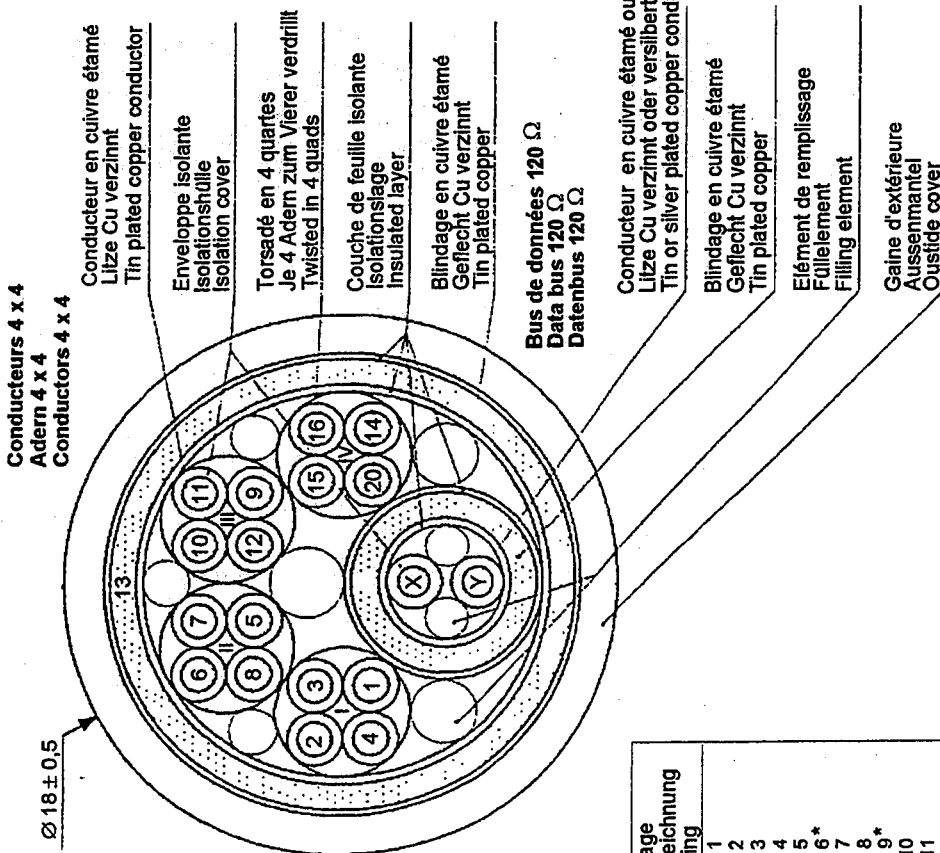
Details of additional functions which individual railways may specify internally for the remote control and data cable: assignment and numbering of the conductors

7	9	Multiplex traction unit control	AC	6 V	9600Hz	Locomotive control in push-pull operation	SNCF
10	11		AC	6 V	19200 Hz		
9	10	Eil-Net	Data AC Direction DC	max. 4V 10V...20V	2.6 - 4.0 kHz 600 bit/s	Night rolling stock	VR
11	12	Train-Net	Data AC	max. 8V max. 16V	„1“ 250 kHz „2“ 500 kHz 600 kbit/s	IC stock, Manchester bisync.	VR
7	8	Announcement over external loudspeakers	DC	18...33V	Continuous signal	Used on multiple unit and push-pull trains with external loudspeakers; I < 22 mA at 24 V	ÖBB

Caractéristiques techniques / Technische Daten / Technical Information

1.	Electrique Elektrisch Electrical	Fil / Ader / Cable	l'ensemble im ganzen whole
1.1	Résistance linéique Widerstand Resistance (20°C)	≤ 0,020 Ω/m	≤ 0,026 Ω/m
1.2	Impédance caractéristique Wellenimpedanz Impedance (0,5 ... 2MHz)	120 ± 12 Ω	
1.3	Impédance de transfert Transferimpedanz Transfer impedance (<30 MHz)	≤ 0,030 Ω/m	
1.4	Capacité Kapazität Capacitance (1 MHz) X-Y : (1 MHz) X-S, Y-S :	max 65 pF/m max 120 pF/m	
1.5	Isolément Isolation Insulation (20°C)	> 100 MΩ/km	> 100 MΩ/km
1.6	Atténuation Dämpfung Attenuation (1Mhz) (2MHz)	max 12 dB/km max 14 dB/km	
1.7	Tension d'essai Prüfspannung Test voltage	1500V 50Hz 15'	1500V 50Hz 15'
2.	Mécanique Mechanisch Mechanical		
2.1	Section Querschnitt Section	1 ⁺ 0,10 mm ² 1 ₋ 0,05	0,75±0,05 mm ²
2.2	Nombre de brins par fil Anzahl der Drähite Number of cable	min 19	min 19
2.3	Torsadage Verdrillung Twisting	min 4/m	min 12/m
2.4	Couverture blindage Schirmüberdeckung Cover	≥ 90 %	≥ 90 %

Constitution du câble souple à 18 conducteurs
Aufbau der 18adrigen biegsamen Leitung
Lay-out of the flexible 18-conductor cable



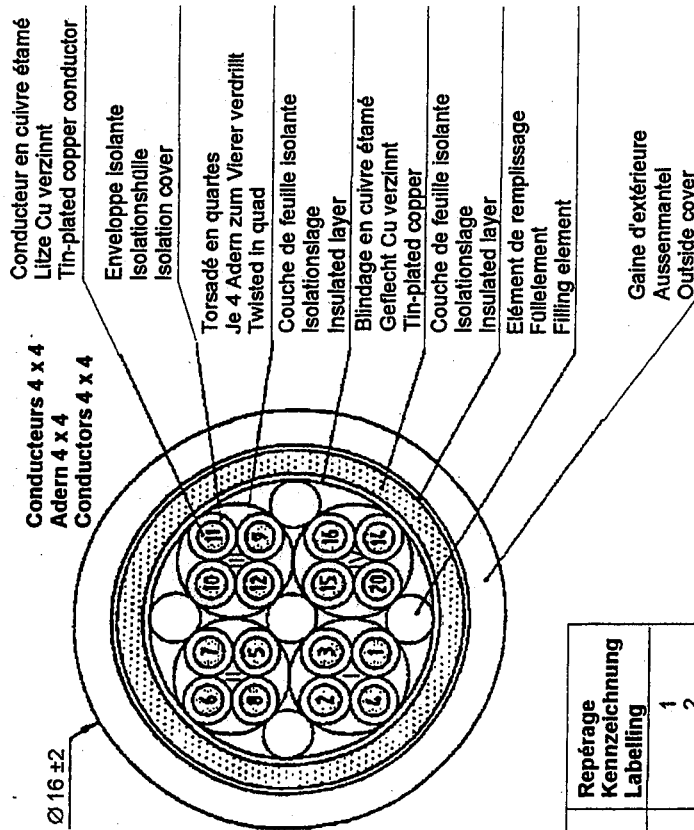
Fil Ader Wire	Repérage Kennzeichnung Labelling
1	1
2	2
3	3
4	4
5	5
6	6*
7	7
8	8
9	9*
10	10
11	11
12	12
14	14
15	15
16	16
20	20
X	blanc/blanc/white
Y	noir/schwarz/black

Hauteurs des chiffres :
Höhe der Zahlen :
Height of the numbers : min 4 mm

Répétition des chiffres :
Wiederholung der Zahlen :
Repetition of the numbers : max 40 mm

Position des conducteurs : suivant figure
Aufbau der Adern : gemäss Bild
Conductors lay-out : see picture

Constitution du câble de transit à 16 conducteurs Aufbau der 16adrigen Durchgangsleitung Lay-out of the 16-conductor transit cable



Fill Ader Wire	Repérage Kennzeichnung Labelling
1	1
2	2
3	3
4	4
5	5
6	6*
7	7
8	8
9	9*
10	10
11	11
12	12
13	13
14	14
15	15
16	16
(20)	20

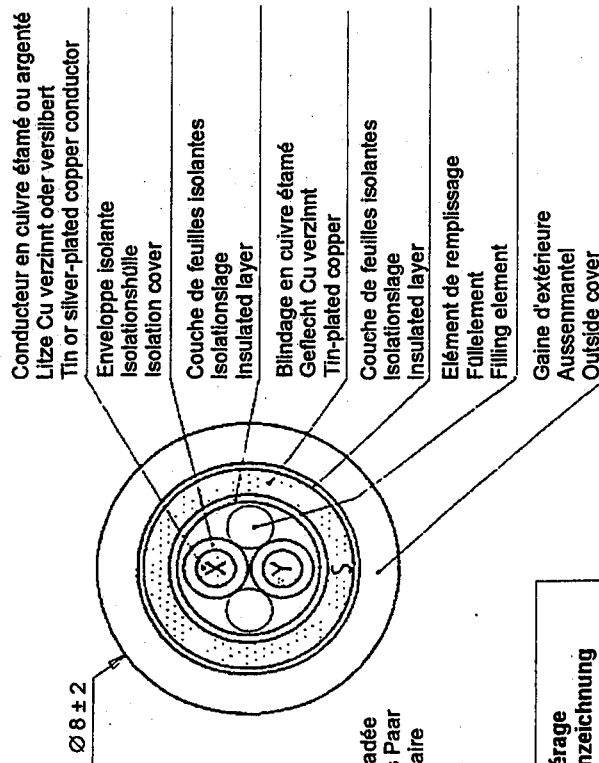
Hauteurs des chiffres : min 4 mm
 Höhe der Zahlen : min 4 mm
 Height of the numbers : min 4 mm
 Répétition des chiffres :
 Wiederholung der Zahlen : max 40 mm
 Repetition of the numbers :
 Position des conducteurs : suivant figure
 Aufbau der Adern : gemäss Bild
 Conductors lay-out : see picture

Caractéristiques techniques Technische Daten Technical information

1	Electrique Elektrisch	Fill/Ader/Cable 4 x 4	L'ensemble Im ganzen Whole
1.1	Résistance linéique Widerstand Resistance (20° C)	≤ 0,020 Ω/m	
1.2	Isolément Isolation Insulation (20° C)	≥ 100 M Ω	
1.3	Tension d'essai Prüfspannung Test voltage	1500 V 50Hz 15'	
2	Mécanique Mechanisch Mechanical		
2.1	Section Querschnitt Section	+ 0,10 - 0,05 mm ²	
2.2	Nombre de brins par conducteur Anzahl der Drähte Number of conductor wires	min. 19	
2.3	Torsadage Verdrillung Twisting	min 4/m	min 10/m
2.4	Couverture blindage Schirmüberdeckung Cover		≥ 90 %

Constitution du câble blindé à 2 conducteurs
Aufbau der 2adrigen geschirmten Leitung
Layout of covered cable with 2 conductors

Bus de données 120 Ω
Datenbus 120 Ω
Data bus 120 Ω



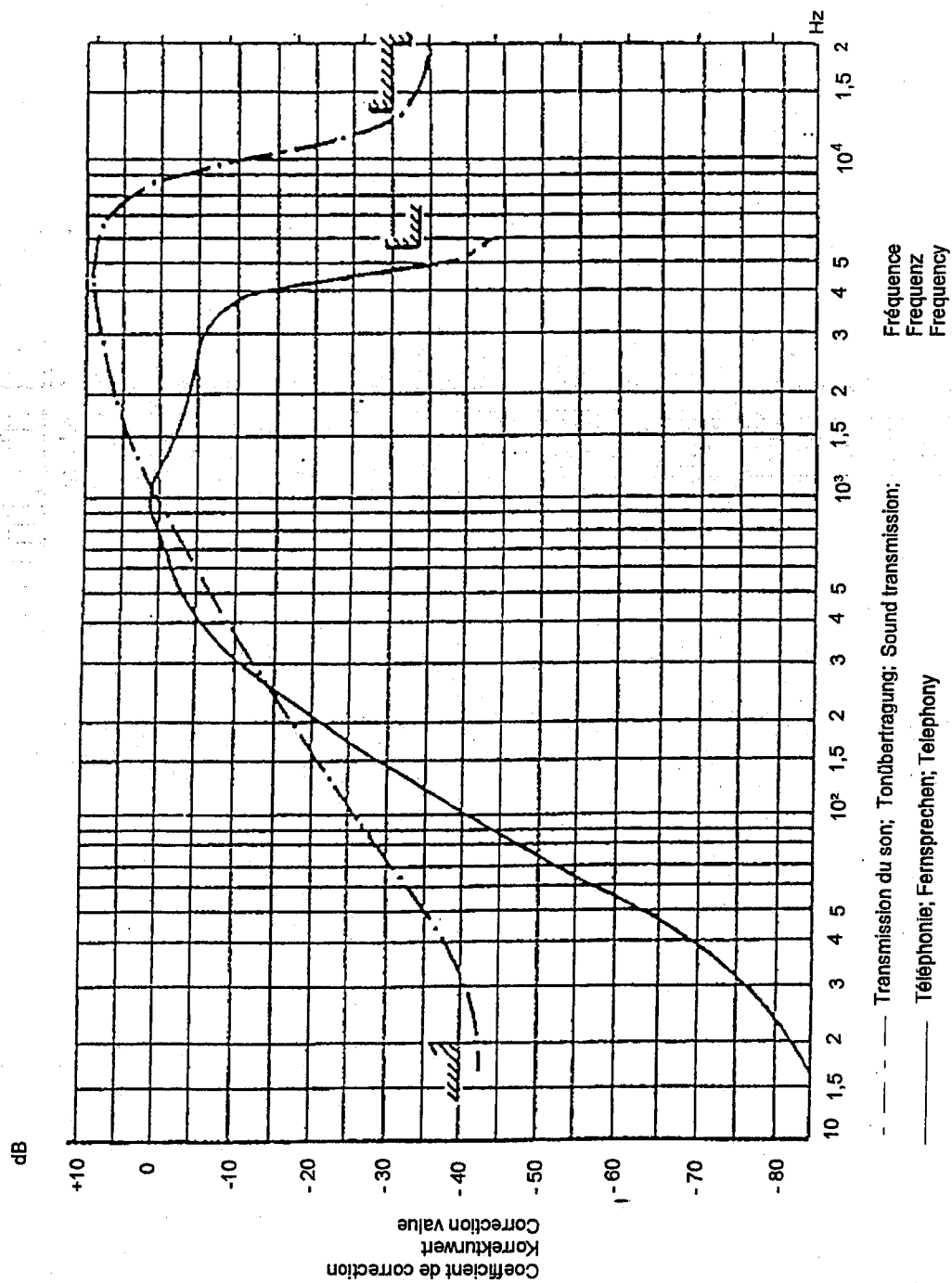
Paire torsadée
X-Y : Versilltes Paar
Twisted pair
Blindage
S : Schirm
Shield

Filet Ader Wire	Repérage Kennzeichnung Labelling
X	blanc weiß white
Y	noir schwarz black

Caractéristiques techniques
Technische Daten
Technical information

1	Electrique Elektrisch Electrical	Fill/Ader/Cable X-Y
1.1	Résistance linéique Widerstand Resistance (20°C)	≤ 0,026 Ω/m
1.2	Impédance caractéristique Wellenimpedanz Impedance (0,5 ... 2MHz)	120 ± 12 Ω
1.3	Impédance de transfert Transferimpedanz Transfer impedance (< 30 MHz)	≤ 0,030 Ω/m
1.4	Capacité Kapazität Capacitance (1 MHz) X-Y (1 MHz) X-S, Y-S :	max 65pF/m max 120 pF/m
1.5	Isolément Isolation Insulation (20°C)	> 100 M Ω/km
1.6	Atténuation Dämpfung Attenuation (1MHz) (2MHz)	max 12 dB/km max 14 dB/km
1.7	Tension d'essai Prüfspannung Test voltage	1500 V 50 Hz 15'
2	Mécanique Mechanisch Mechanical	
2.1	Section Querschnitt Section	0,75 ± 0,05 mm ²
2.2	Nombre de brins par conducteur Anzahl der Drähte Number of wires	min 19
2.3	Torsadage Verdrillung Twisting	min 12/m
2.4	Couverture blindage Schirmüberdeckung Cover	≥ 90 %

Mesure de la tension psophométrique - Courbe de pondération CCITT
 Messen der Geräuschspannung - Bewertungskurven nach CCITT
 Measurement of psophometric voltage CCITT - Weighting curve



**Disposition des raccordements
Anordnung der Kupplungsarmaturen
Connection lay-out**

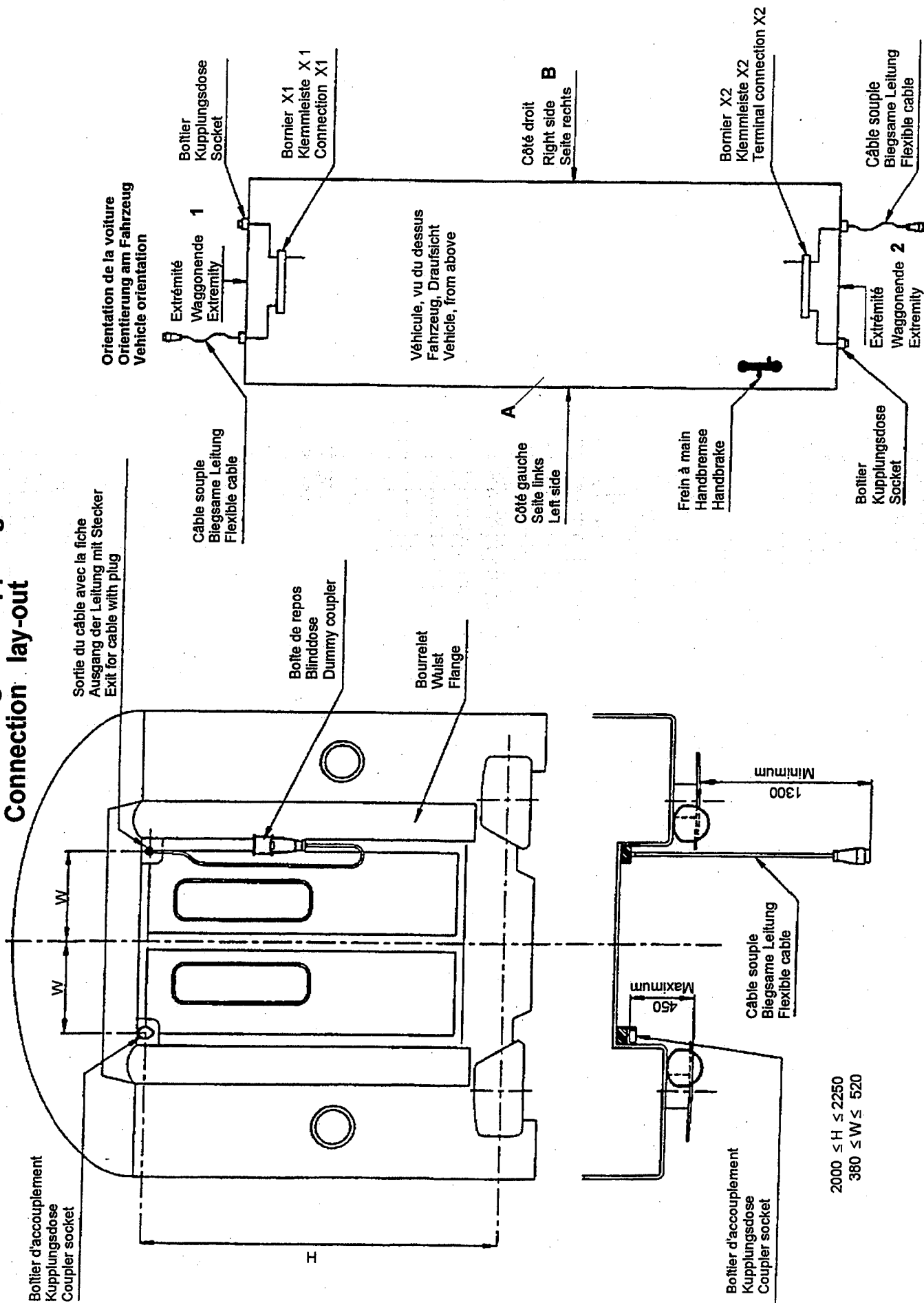
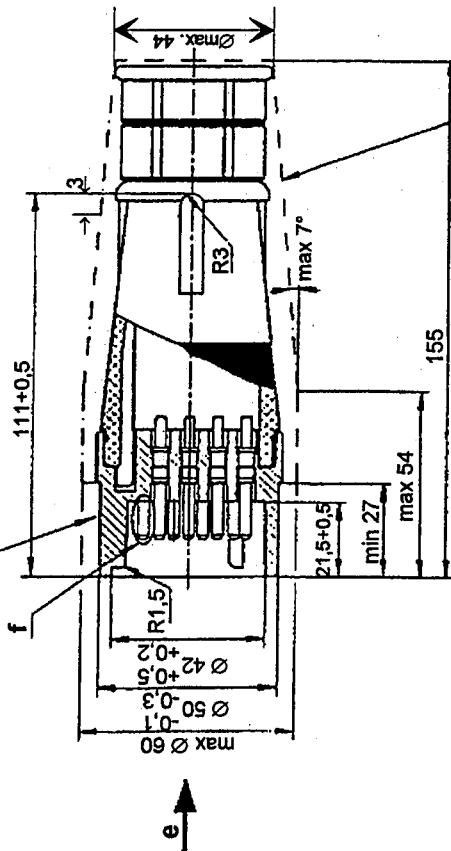


PLANCHE 7.1
TAFEL 7.1
PLATE 7.1

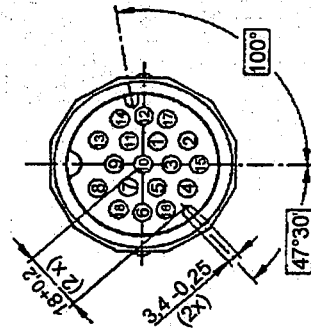
Fiche coupleur à 18 broches - 18poliger Kupplungsstecker - Coupler with 18 pins

Pièce résistante aux chocs et à la température +120°C
 Une matière plastique est recommandée - 40°C
 Stoss- und Temperaturfestes Teil +120°C
 Empfohlen wird Kunststoff - 40°C
 Part resisting to impacts and temperatures from +120°C
 A plastic material is recommended - 40°C

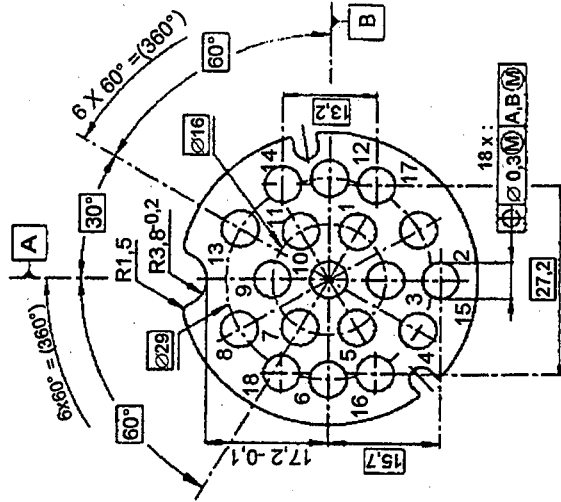


Encombrement de la fiche
 Raumbedarf des Steckers
 Space allowed for the plug

Vue suivant flèche e
 Ansicht auf Fläche e
 View along arrow e

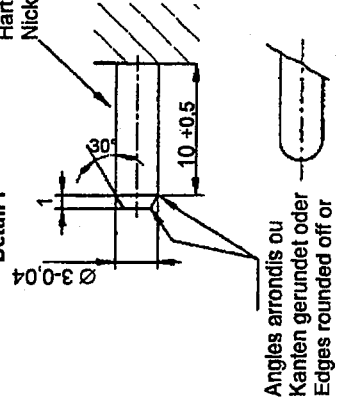


Disposition des contacts
 Polbilddarstellung
 Contact arrangement

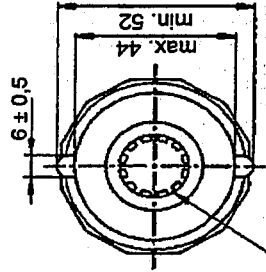


Détail f
 Einzelheit f
 Detail f

Laiton dur nickelé
 Hartmessing vernickelt
 Nickel-plated hard brass



Vue suivant flèche g
 Ansicht auf Fläche g
 View along arrow g



Adapté à la section du câble planche 2
 Geeignet zur Einführung der Leitung gemäss Tafel 2
 Adapted for cable plate 2

Flèche de repérage de l'ergot
 Pfeil zum Kennzeichnen der Führungsnase
 Arrow for identifying the spigot

Bande de repérage rouge RAL 3000 à 3024
 Roter Kennzeichnungstreifen RAL 3000 bis 3024
 Red marking strip RAL 3000 to 3024

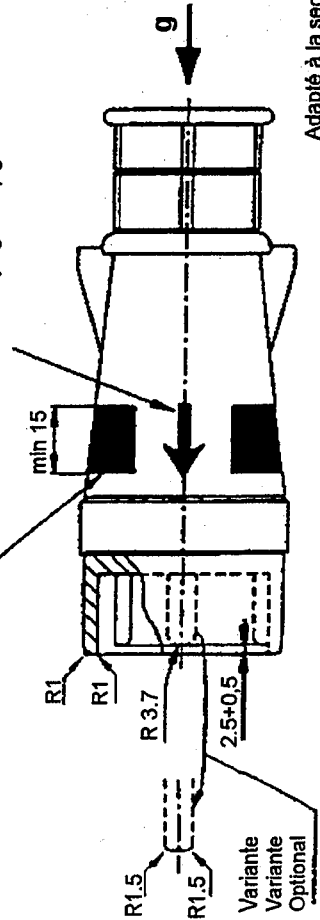
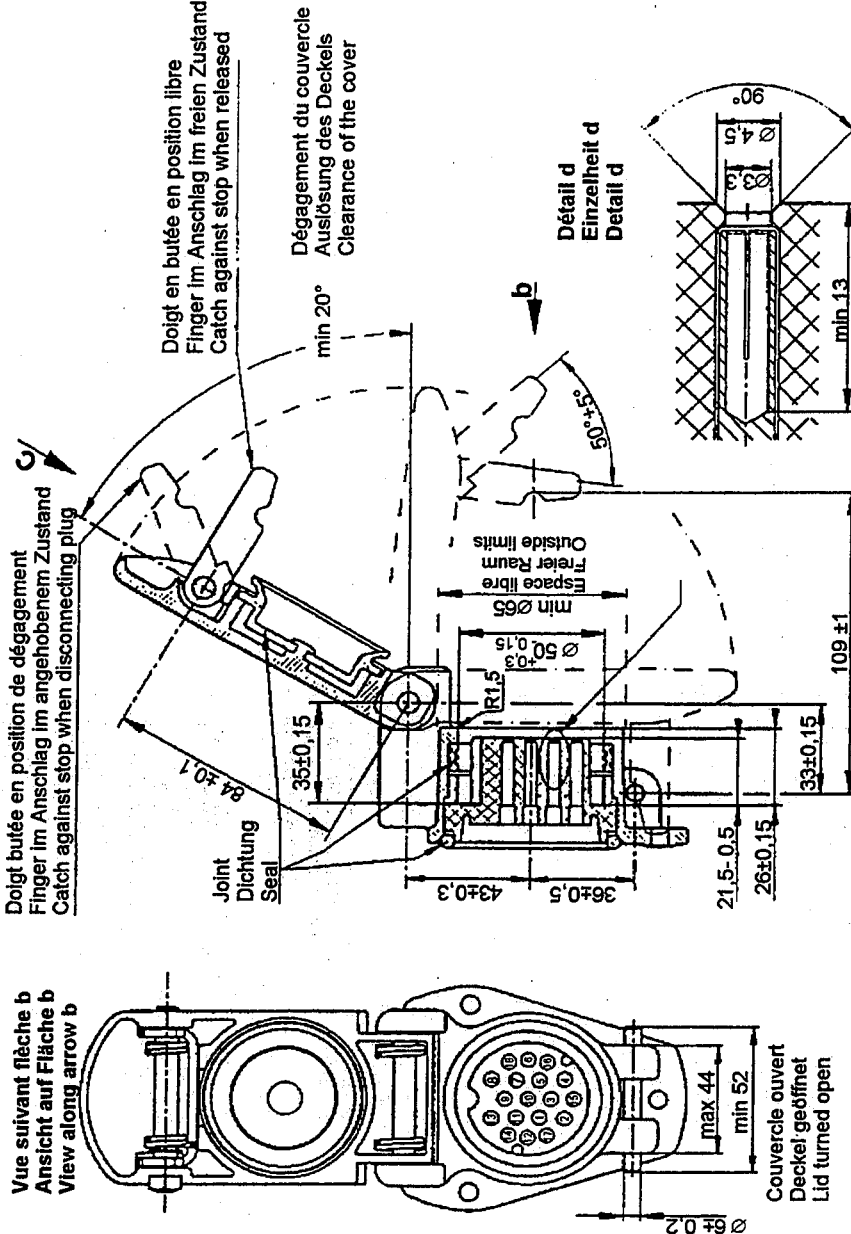


PLANCHE 7.2
TAFEL 7.2
PIATE 7.2

Boîtier coupleur à 18 alvéoles - 18polige Kupplungsdose - Coupler socket 18 pins



Doigt butée en position de déagement
Finger im Anschlag im angehobenen Zustand
Catch against stop when disconnecting plug

Doigt en butée en position libre
Finger im Anschlag im freien Zustand
Catch against stop when released

Dégagement du couvercle
Auslösung des Deckels
Clearance of the cover

Détail d
Einzelheit d
Detail d

Vue suivant flèche a
Ansicht auf Fläche a
View along arrow a

Vue suivant flèche c
Ansicht auf Fläche c
View along arrow c

Flèche de repérage du logement de lergot
Pfeil zum Kennzeichnen der Führungsnut
Arrow for identifying the spigot hole

Rainure de repérage rouge RAL 3000 à 3024
Roter Kennzeichnungstreifen RAL 3000 bis 3024
Red marking strip RAL 3000 to 3024

Couvercle ouvert
Deckel geöffnet
Lid turned open

Couvercle fermé
Deckel geschlossen
Lid closed

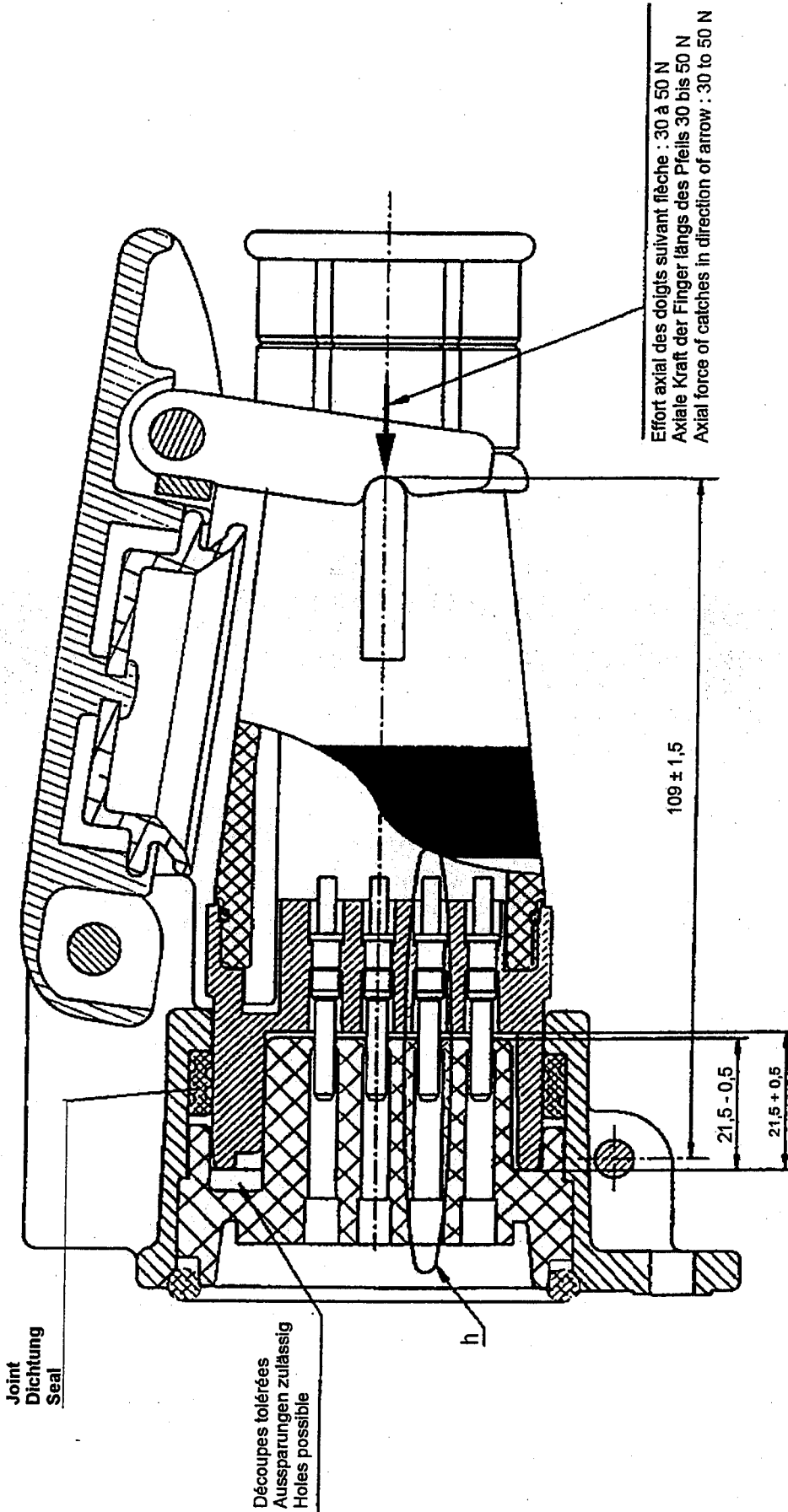
Disposition des contacts
Polbildarstellung
Contact arrangement

Chamfrein
Abschrägung
Chamfer
max. 1x1

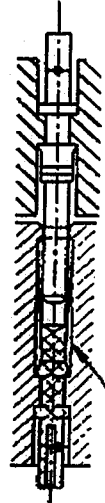
p.e.: trous de fixations
z.B.: Befestigungsbohrungen
f.e.: fixing holes

4x ø5,5
et/ou
und/oder
and/or
3x ø8

Accouplement 18 pôles - 18 polige Steckverbindung - Coupling with 18 pins

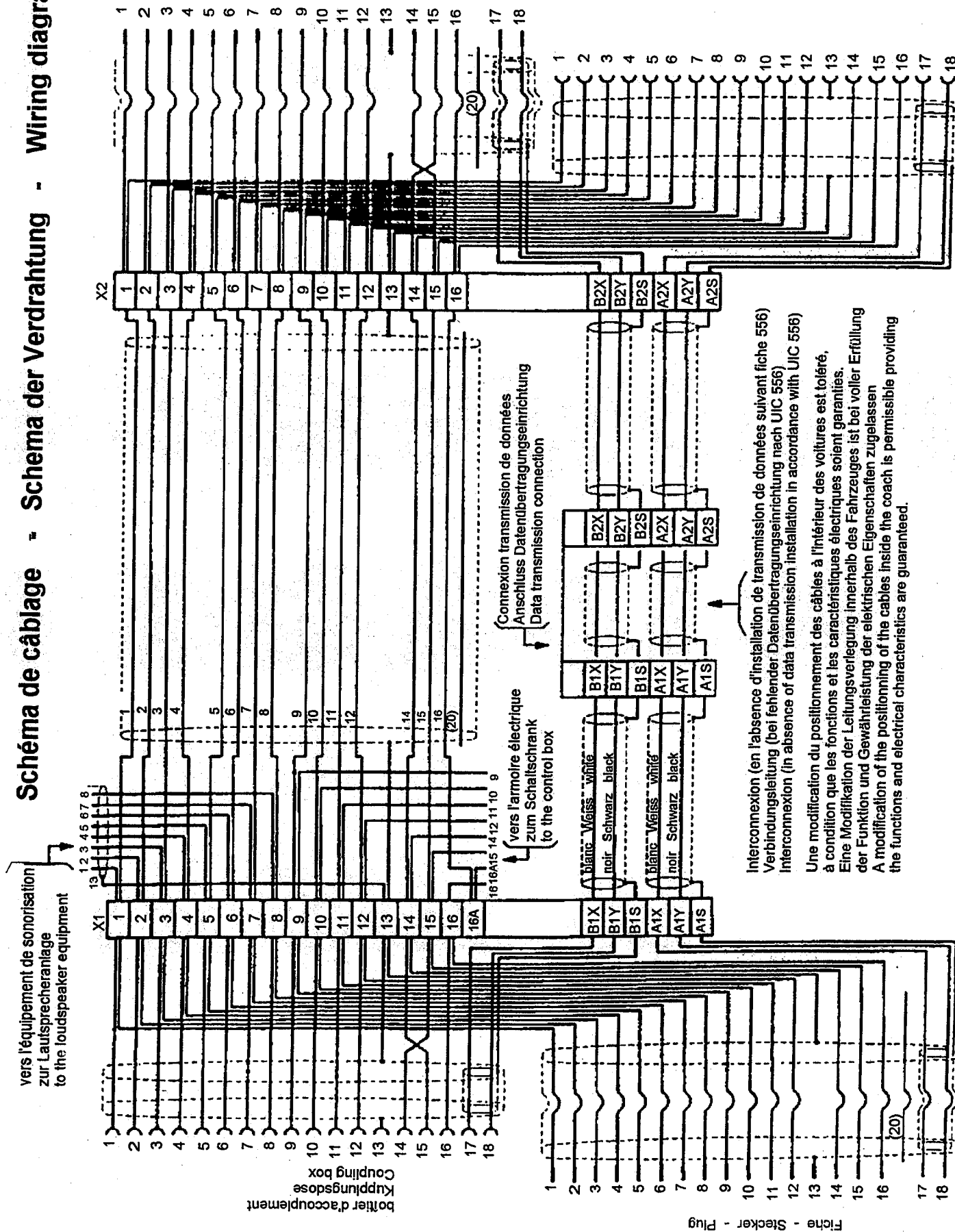


Détail h
Einzelheit h
Detail h



Jeu diamétral de l'alvéole dans l'isolant : 0,5 ± 0,1
Buchensspiel insgesamt im Isolierwerkstoff 0,5 ± 0,1
Diametral play between insulating housing and pin socket 0,5 ± 0,1

Schéma de câblage - Schema der Verdrahtung - Wiring diagram



Application

With effect from 1 January 1996.

All UIC members.

Record References

Headings under which this matter has been dealt with:

- *Item 3.1* - Revision of Leaflets in the 55 series of the UIC Code.
(C5 Rolling Stock Committee : Berlin, May 1995).
- *Item 3.1 - Question 5RFIC* - Revision of Leaflet 558.
Alteration of the Leaflet.
(C5 Rolling Stock Committee : Paris, March 1996).
- *Item 2.4* - Leaflet 558 - Approval of amendments.
(Working Party 5R for Electronic equipment in passenger and freight rolling stock : Minden, June 1996).

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16, rue Jean Rey - 75015 Paris (France)