

Commission Implementing Regulation (EU) 2016/799

of 18 March 2016

implementing Regulation (EU) No 165/2014 of the European Parliament and of the Council laying down the requirements for the construction, testing, installation, operation and repair of tachographs and their components

ANNEX I C

Requirements for construction, testing, installation, and inspection

Appendix 6

FRONT CONNECTOR FOR CALIBRATION AND DOWNLOAD

1.HARDWARE

1.1. Connector

INT_001The downloading/calibration connector shall be a 6 pin connector, accessible on the front panel without the need to disconnect any part of the tachograph, and shall comply with the following drawing (all dimensions in millimetres):

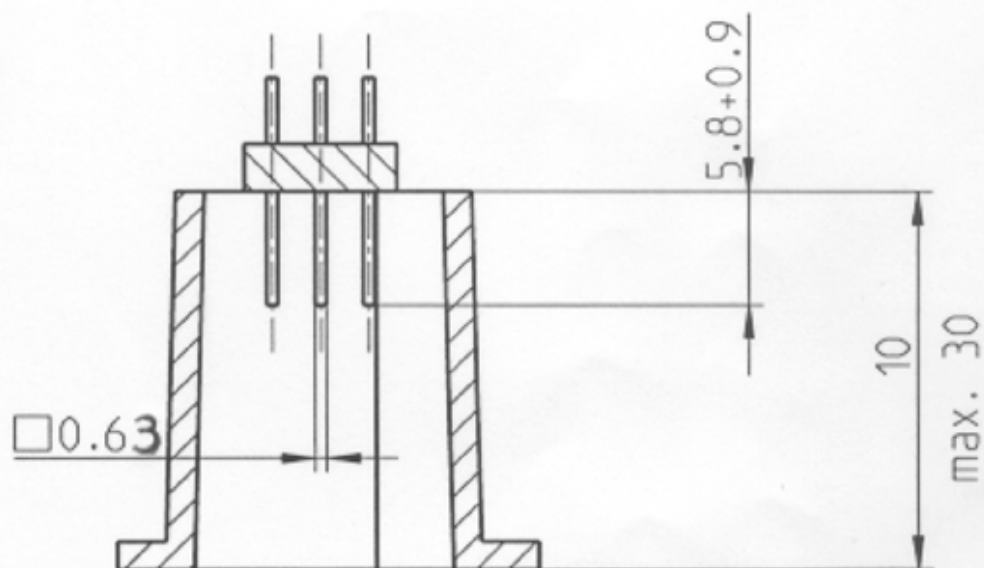
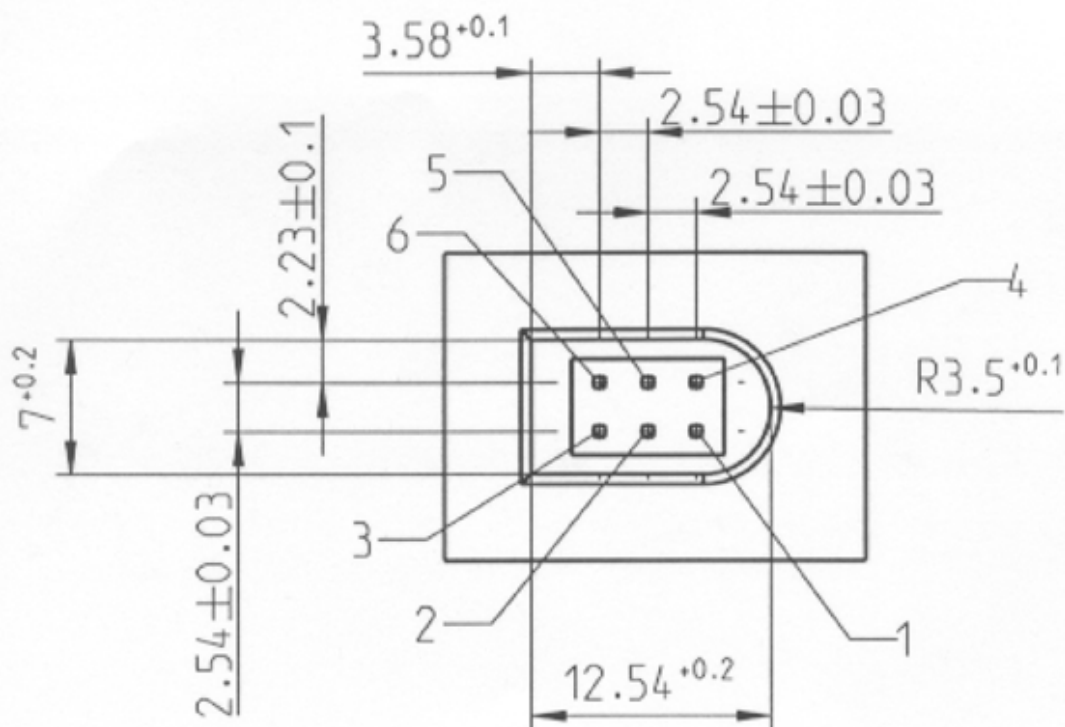
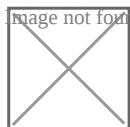
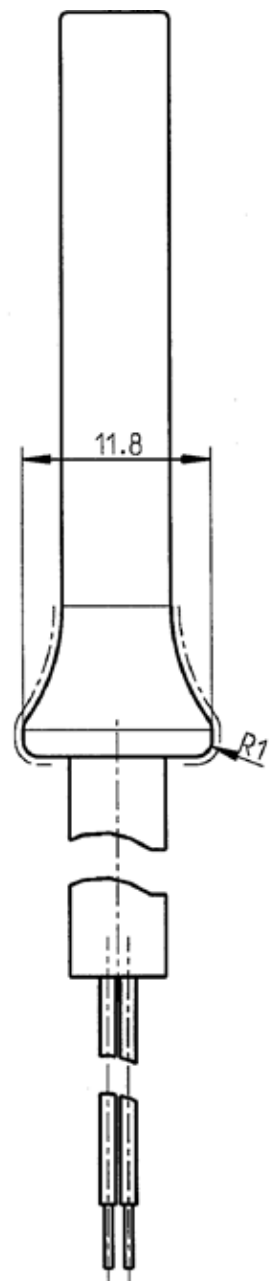
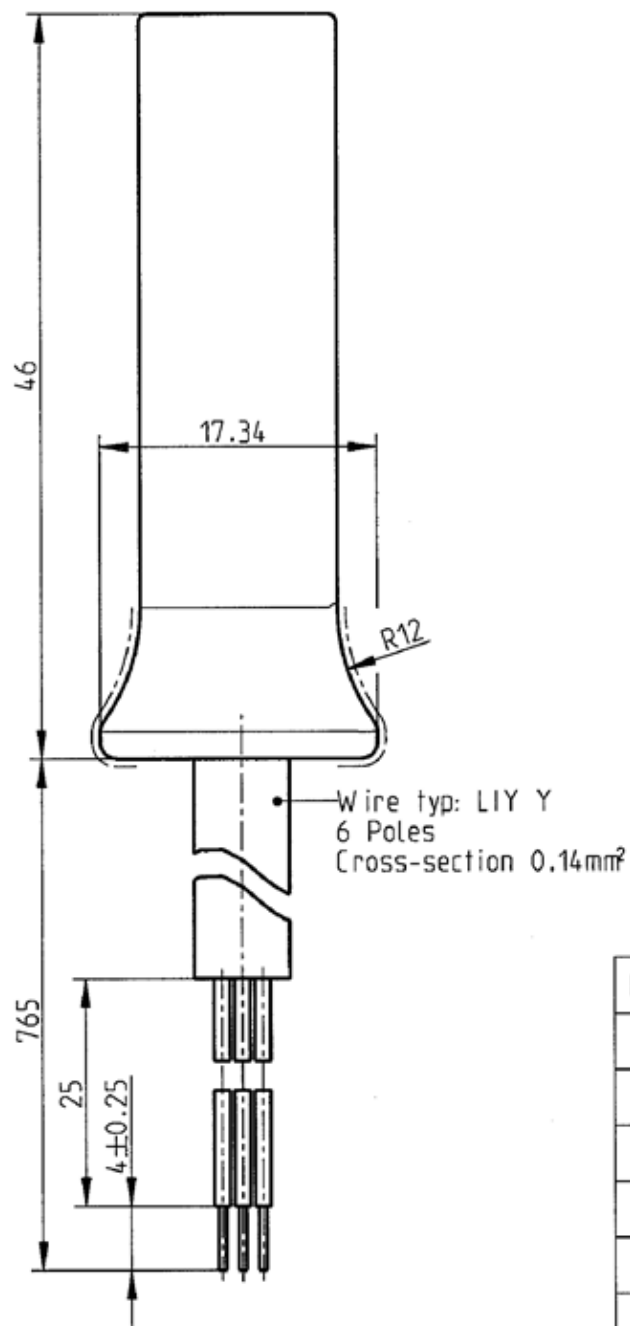


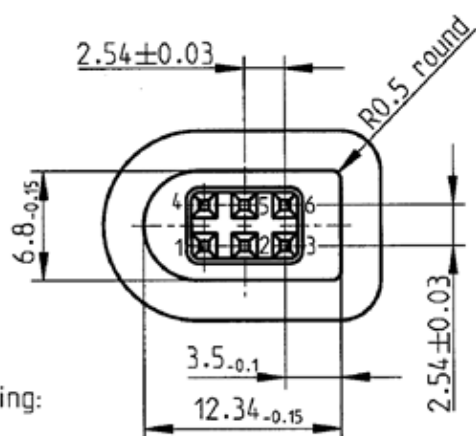
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The following diagram shows a typical 6 pin mating plug:

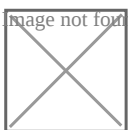


PIN	colour
1	white
2	brown
3	
4	green
5	yellow
6	



Contact:
47 745-001
Socket housing:
650 43-034

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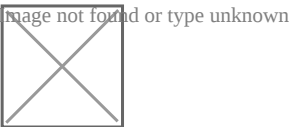
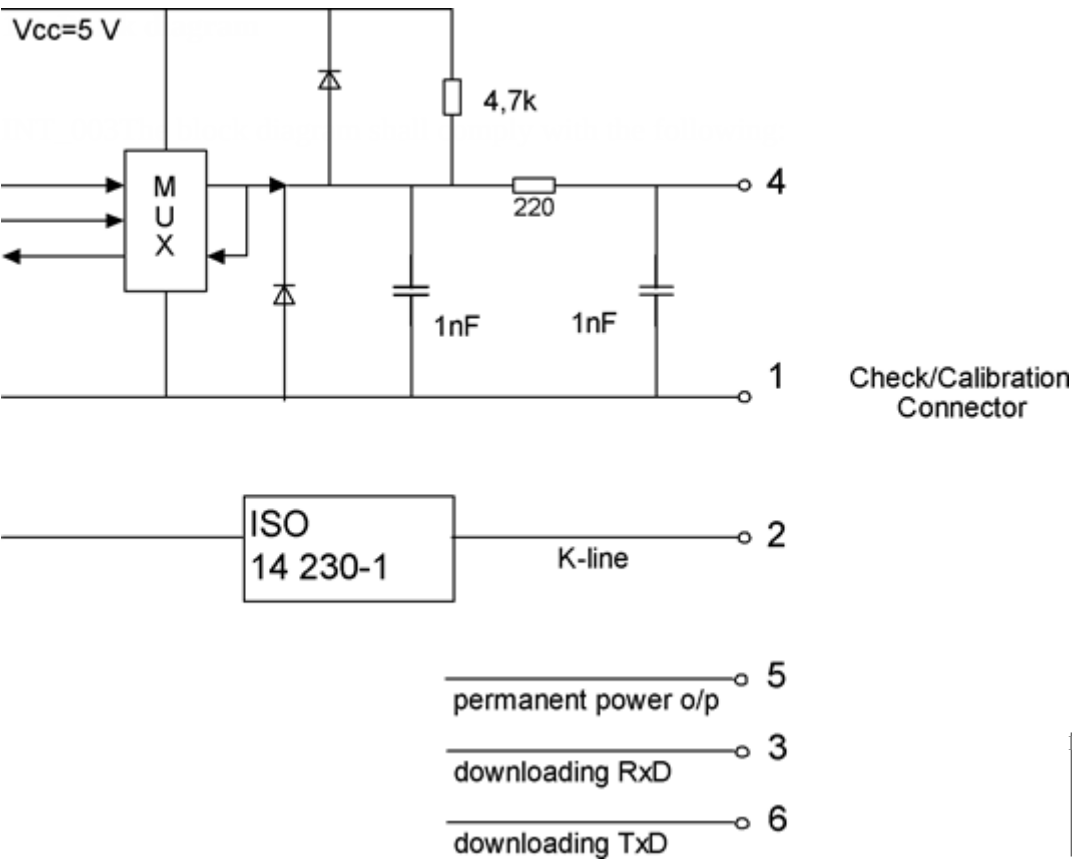


--- Surface pattern
VDI 3400 Ref. 36 Ra 6.3 µm

1.2. Contact allocation

INT_002Contacts shall be allocated in accordance with the following table:

Pin	Description	Remark
1	Battery minus	Connected to the battery minus of the vehicle
2	Data communication	K-line (ISO 14230-1)
3	RxD — Downloading	Data input to tachograph
4	Input/output signal	Calibration
5	Permanent power output	The voltage range is specified to be that of the vehicle power minus 3V to allow for the voltage drop across the protective circuitry Output 40 mA
6	TxD — Downloading	Data output from tachograph

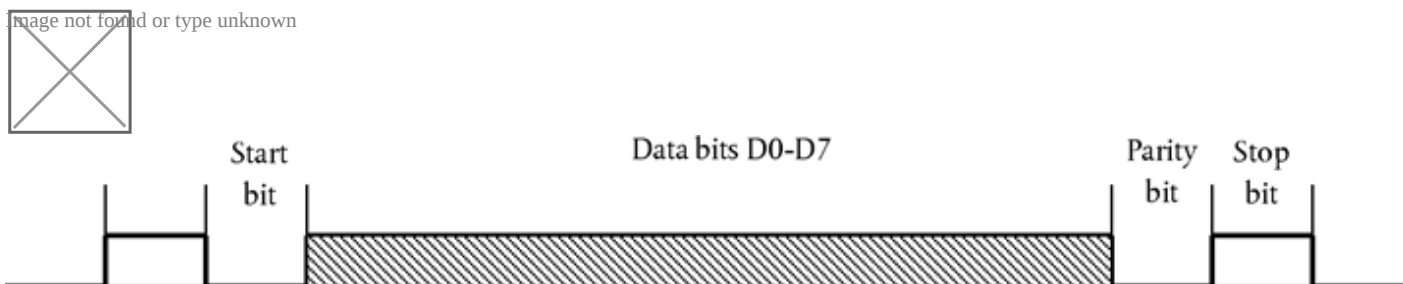


2.DOWNLOADING INTERFACE

INT_004The downloading interface shall comply to RS232 specifications.

INT_005The downloading interface shall use one start bit, 8 data bits LSB first, one even parity bit and 1 stop bit.

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Data byte organisation

Start bit

:

one bit with logic level 0;

Data bits

:

transmitted with LSB first;

Parity bit

:

even parity

Stop bit

:

one bit with logic level 1

When numerical data composed by more than one byte are transmitted, the most significant byte is transmitted first and the least significant byte last.

INT_006Transmission baud rates shall be adjustable from 9 600 bps to 115 200 bps. Transmission shall be achieved at the highest possible transmission speed, the initial baud rate after a start of communication being set at 9 600 bps.

3.CALIBRATION INTERFACE

INT_007The data communication shall comply to ISO 14230-1 Road vehicles — Diagnostic systems — Keyword protocol 2000 — Part 1: Physical layer, First edition: 1999.

INT_008The input/output signal shall comply with the following electrical specification:

Parameter	Minimum	Typical	Maximum	Remark
$U_{low} (in)$			1,0 V	$I = 750 \text{ ?A}$
$U_{high} (in)$	4 V			$I = 200 \text{ ?A}$
Frequency		4 kHz		
$U_{low} (out)$		1,0 V		$I = 1 \text{ mA}$
$U_{high} (out)$	4 V			$I = 1 \text{ mA}$

INT_009The input/output signal shall comply with the following timing diagrams:

