

This is a preview of "ISO 13044-2:2021". [Click here to purchase the full version from the ANSI store.](#)

Second edition
2021-01

Road vehicles — Fully automatic coupling systems 24 V (FACS) for heavy commercial vehicle combinations —

Part 2: Electrical and pneumatic interface for 50 mm fifth wheel couplings

Véhicules routiers — Dispositifs d'attelage entièrement automatiques (FACS) à 24 V pour ensembles routiers lourds —

Partie 2: Interface électrique et pneumatique pour sellettes d'attelage de 50 mm



Reference number
ISO 13044-2:2021(E)

© ISO 2021



COPYRIGHT PROTECTED DOCUMENT

© ISO 2021

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

This is a preview of "ISO 13044-2:2021". Click here to purchase the full version from the ANSI store.

Contents

	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Requirements	2
4.1 General	2
4.2 Tractor and semi-trailer	3
4.3 Mechanical interface, Manual operation	3
4.4 EPI module	3
4.5 Mating of the two EPI parts	3
4.6 Guiding and alignment	4
4.6.1 General	4
4.6.2 Installation requirements of EPI socket module	5
4.6.3 Installation requirements of semi-trailer-mounted EPI module	5
4.6.4 Perpendicular degree of freedom of contacts	6
4.6.5 Pneumatic valves in EPI socket module	6
4.7 Encapsulation and protection	6
4.7.1 General	6
4.7.2 EPI plug module protection cover actuation	6
4.7.3 Gasket between plug and socket	7
4.8 Automation of landing legs	7
4.9 ISO 11992 cable length	7
4.10 Mixed mode operation	7
5 Tests and specific requirements	7
5.1 General	7
5.2 Visual examination	8
5.3 Dimensional check	8
5.4 Connection and disconnection	8
5.5 Locking device operation	9
5.5.1 Application	9
5.5.2 Requirements	9
5.6 Current carrying capacity	9
5.7 Connection resistance (voltage drop), cable capacitance and pneumatics	9
5.8 Current cycling	11
5.9 Withstand voltage	12
5.10 Influence of water	12
5.11 Protection against dust	12
5.12 Endurance	12
5.13 Vibration	12
5.14 Shock resistance	12
5.15 Drop test	13
5.16 Temperature/humidity cycling	13
5.17 Salt spray	13
5.18 Chemical resistance	13
5.19 Leakage test of pneumatic connections	13
5.20 Functional test of protection covers	13
Annex A (normative) EPI module — Dimensional characteristics	14
Annex B (normative) EPI module — Contact allocation	23
Annex C (informative) Mixed mode operation	25
Bibliography	29

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 40, *Specific aspects for light and heavy commercial vehicles, busses and trailers*.

This second edition cancels and replaces the first edition (ISO 13044-2:2013), which has been technically revised. The main changes compared to the previous edition are as follows:

- changes to the normative references.

A list of all the parts in the ISO 13044 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

This is a preview of "ISO 13044-2:2021". [Click here to purchase the full version from the ANSI store.](#)

Introduction

This document specifies the integrated electrical and pneumatic connections of an automated fifth wheel coupling system for articulated vehicles and related components.

Fully automated coupling systems improve safety for the driver and for the vehicle combinations. They also improve the work conditions for the driver and reduce cost for the end user.

- a) Higher safety standard is achieved for example by:
 - a reduction of operational accidents,
 - less injured drivers because there is no need for drivers to stay in the dangerous zone between the towing and the towed vehicle while uncoupling.
- b) Higher comfort level is achieved for example by:
 - elimination of necessity to access the coupling, landing gears and supply lines,
 - reduction of physical demands when operating the coupling and the landing gears or when climbing on or descending from chassis to manually connect or disconnect the supply lines.
- c) Cost reduction for end user is achieved for example by:
 - less repair and maintenance of cables and pipes,
 - less inactive periods for the vehicle combination due to less damage and repair,
 - new components create space for future extensions and potentials.