



BSI Standards Publication

Road vehicles — Tachograph systems

Part 7: Parameters

National foreword

This British Standard is the UK implementation of [ISO 16844-7:2022](#). It supersedes [BS ISO 16844-7:2015](#), which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee AUE/16, Data Communication (Road Vehicles).

A list of organizations represented on this committee can be obtained on request to its committee manager.

Contractual and legal considerations

This publication has been prepared in good faith, however no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by BSI in relation to the adequacy, accuracy, completeness or reasonableness of this publication. All and any such responsibility and liability is expressly disclaimed to the full extent permitted by the law.

This publication is provided as is, and is to be used at the recipient's own risk.

The recipient is advised to consider seeking professional guidance with respect to its use of this publication.

This publication is not intended to constitute a contract. Users are responsible for its correct application.

© The British Standards Institution 2022
Published by BSI Standards Limited 2022

ISBN 978 0 539 16133 5

ICS 43.040.10

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 July 2022.

Amendments/corrigenda issued since publication

Date	Text affected
------	---------------

INTERNATIONAL STANDARD

ISO
16844-7

Third edition
2022-05-03

Road vehicles — Tachograph systems — Part 7: Parameters

*Véhicules routiers — Systèmes tachygraphes —
Partie 7: Paramètres*



Reference number
ISO 16844-7:2022(E)

AVA Documents
Document Sharing Hub
© ISO 2022



COPYRIGHT PROTECTED DOCUMENT

© ISO 2022, Published in Switzerland

All rights reserved. Unless otherwise specified, 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
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

Page

Foreword	vii
Introduction	viii
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Symbols and abbreviated terms	1
5 Identifier specification for diagnostic services	2
5.1 Data identifiers (DID)	2
5.2 Routine identifiers (RID)	6
6 Parameters and values	7
6.1 Transmitted parameter ranges	7
6.2 Structured parameters	7
6.3 Date and time parameter specifications	7
6.3.1 Day	7
6.3.2 Month	7
6.3.3 Year	7
6.4 Parameter specifications	7
6.4.1 Standard revision	7
6.4.2 VIN — VehicleIdentificationNumber	8
6.4.3 Trip group 1	8
6.4.4 System event	8
6.4.5 Handling information	8
6.4.6 Tachograph performance	9
6.4.7 Direction indicator	9
6.4.8 Requested illumination percentage	9
6.4.9 Switch backlight illumination brightness per cent	9
6.4.10 Switch indication illumination brightness per cent	9
6.4.11 RSDST — RemoteSessionDiagnosticSessionType	9
6.4.12 TVS — TachographVehicleSpeed	9
6.4.13 D1WS — Driver1WorkingState	10
6.4.14 D2WS — Driver2WorkingState	10
6.4.15 DR — DriveRecognize	10
6.4.16 D1TRS — Driver1TimeRelatedStates	11
6.4.17 D2TRS — Driver2TimeRelatedStates	11
6.4.18 DCD1 — DriverCardDriver1	12
6.4.19 DCD2 — DriverCardDriver2	12
6.4.20 OS — Overspeed	12
6.4.21 TD — TimeDate	13
6.4.22 RHM — ResetHeartbeatMessage	13
6.4.23 ALMO — AdjustLocalMinuteOffset	13
6.4.24 ALHO — AdjustLocalHourOffset	14
6.4.25 PLOTM — PriorityLevelOfTCO1Message	14
6.4.26 HRTVD — HighResolutionTotalVehicleDistance	14
6.4.27 HRTD — HighResolutionTripDistance	14
6.4.28 SCI — ServiceComponentIdentification	15
6.4.29 SDCTB — ServiceDelayCalendarTimeBased	15
6.4.30 D1I — Driver1Identification	16
6.4.31 D2I — Driver2Identification	16
6.4.32 KF — KFactor	16
6.4.33 SMR — SpeedMeasurementRange	17
6.4.34 NOTOPW — NumberOfTeethOnPhonicWheel	17
6.4.35 TOSS — TachographOutputShaftSpeed	17

6.4.36	LFTC — LFactorTyreCircumference	17
6.4.37	WVCF — WVehicleCharacteristicFactor	18
6.4.38	PPROOS — PulsesPerRevolutionOfOutputShaft	18
6.4.39	TRROTM — TransmissionRepetitionRateOfTCO1Message	18
6.4.40	TS — TyreSize	19
6.4.41	NCD — NextCalibrationDate	19
6.4.42	D1CDT — Driver1ContinuousDrivingTime	19
6.4.43	D2CDT — Driver2ContinuousDrivingTime	20
6.4.44	D1CBT — Driver1CumulativeBreakTime	20
6.4.45	D2CBT — Driver2CumulativeBreakTime	20
6.4.46	D1CDOSA — Driver1CurrentDurationOfSelectedActivity	21
6.4.47	D2CDOSA — Driver2CurrentDurationOfSelectedActivity	21
6.4.48	SA — SpeedAuthorised	21
6.4.49	TCS1 — TachographCardSlot1	21
6.4.50	TCS2 — TachographCardSlot2	22
6.4.51	D1N — Driver1Name	22
6.4.52	D2N — Driver2Name	23
6.4.53	OOSC — OutOfScopeCondition	23
6.4.54	MOD — ModeOfOperation	24
6.4.55	D1CDTPACW — Driver1CumulatedDrivingTimePreviousAndCurrentWeek	24
6.4.56	D2CDTPACW — Driver2CumulatedDrivingTimePreviousAndCurrentWeek	24
6.4.57	RTSP — RealTimeSpeedPulses	25
6.4.58	ES — EngineSpeed	25
6.4.59	CIO — CalibrationInputOutput	25
6.4.60	SJW — SynchronizationJumpWidth	26
6.4.61	SP — SamplePoint	26
6.4.62	TOMED — TimeoutMessageErrorDelay	27
6.4.63	EMII — ErrorManagementInitialisationInhibition	27
6.4.64	RMS — RegisteringMemberState	27
6.4.65	VRN — VehicleRegistrationNumber	28
6.4.66	VRD — VehicleRegistrationDate	28
6.4.67	D1PL — Driver1PreferredLanguage	28
6.4.68	D2PL — Driver2PreferredLanguage	29
6.4.69	DC1DTP — DriverCard1DownloadTimePeriod	29
6.4.70	DC2DTP — DriverCard2DownloadTimePeriod	29
6.4.71	TDTP — TachographDownloadTimePeriod	30
6.4.72	DHRPWT — DriversHoursRulesPreWarningTimeDelay	30
6.4.73	DCEWTD — DriverCardExpiryWarningTimeDelay	30
6.4.74	NDC1DWTD — NextDriverCard1DownloadWarningTimeDelay	31
6.4.75	NDC2DWTD — NextDriverCard2DownloadWarningTimeDelay	31
6.4.76	NTDWTD — NextTachographDownloadWarningTimeDelay	31
6.4.77	NCWTD — NextCalibrationWarningTimeDelay	32
6.4.78	D1EOLDRP — Driver1EndOfLastDailyRestPeriod	32
6.4.79	D2EOLDRP — Driver2EndOfLastDailyRestPeriod	32
6.4.80	D1EOLWRP — Driver1EndOfLastWeeklyRestPeriod	33
6.4.81	D2EOLWRP — Driver2EndOfLastWeeklyRestPeriod	33
6.4.82	D1EOSLWRP — Driver1EndOfSecondLastWeeklyRestPeriod	33
6.4.83	D2EOSLWRP — Driver2EndOfSecondLastWeeklyRestPeriod	33
6.4.84	D1CDDT — Driver1CurrentDailyDrivingTime	34
6.4.85	D2CDDT — Driver2CurrentDailyDrivingTime	34
6.4.86	D1CWDT — Driver1CurrentWeeklyDrivingTime	34
6.4.87	D2CWDT — Driver2CurrentWeeklyDrivingTime	34
6.4.88	D1TLUNDRP — Driver1TimeLeftUntilNewDailyRestPeriod	35
6.4.89	D2TLUNDRP — Driver2TimeLeftUntilNewDailyRestPeriod	35
6.4.90	D1CED — Driver1CardExpiryDate	35
6.4.91	D2CED — Driver2CardExpiryDate	36
6.4.92	D1CNMDD — Driver1CardNextMandatoryDownloadDate	36
6.4.93	D2CNMDD — Driver2CardNextMandatoryDownloadDate	36

6.4.94	TNMDD — TachographNextMandatoryDownloadDate	37
6.4.95	D1TLUNWRP — Driver1TimeLeftUntilNewWeeklyRestPeriod	37
6.4.96	D2TLUNWRP — Driver2TimeLeftUntilNewWeeklyRestPeriod	37
6.4.97	D1NOT9HDDTE — Driver1NumberOfTimes9hDailyDrivingTimesExceeded	37
6.4.98	D2NOT9HDDTE — Driver2NumberOfTimes9hDailyDrivingTimesExceeded	38
6.4.99	D1CURT — Driver1CumulativeUninterruptedRestTime	38
6.4.100	D2CURT — Driver2CumulativeUninterruptedRestTime	38
6.4.101	D1MDR — Driver1MinimumDailyRest	39
6.4.102	D2MDR — Driver2MinimumDailyRest	39
6.4.103	D1MWR — Driver1MinimumWeeklyRest	39
6.4.104	D2MWR — Driver2MinimumWeeklyRest	40
6.4.105	D1MDP — Driver1MaximumDailyPeriod	40
6.4.106	D2MDP — Driver2MaximumDailyPeriod	40
6.4.107	D1MDDT — Driver1MaximumDailyDrivingTime	40
6.4.108	D2MDDT — Driver2MaximumDailyDrivingTime	41
6.4.109	D1NOURDRP — Driver1NumberOfUsedReducedDailyRestPeriods	41
6.4.110	D2NOURDRP — Driver2NumberOfUsedReducedDailyRestPeriods	41
6.4.111	D1RCDT — Driver1RemainingCurrentDrivingTime	42
6.4.112	D2RCDT — Driver2RemainingCurrentDrivingTime	42
6.4.113	D1RDTOCS — Driver1RemainingDrivingTimeOnCurrentShift	42
6.4.114	D2RDTOCS — Driver2RemainingDrivingTimeOnCurrentShift	43
6.4.115	D1RDTOCW — Driver1RemainingDrivingTimeOfCurrentWeek	43
6.4.116	D2RDTOCW — Driver2RemainingDrivingTimeOfCurrentWeek	43
6.4.117	D1R2WDT — Driver1Remaining2WeeksDrivingTime	43
6.4.118	D2R2WDT — Driver2Remaining2WeeksDrivingTime	44
6.4.119	D1TLUNDP — Driver1TimeLeftUntilNextDrivingPeriod	44
6.4.120	D2TLUNDP — Driver2TimeLeftUntilNextDrivingPeriod	44
6.4.121	D1DONDP — Driver1DurationOfNextDrivingPeriod	45
6.4.122	D2DONDP — Driver2DurationOfNextDrivingPeriod	45
6.4.123	D1DONBR — Driver1DurationOfNextBreakRest	45
6.4.124	D2DONBR — Driver2DurationOfNextBreakRest	46
6.4.125	D1RTOCBR — Driver1RemainingTimeOfCurrentBreakRest	46
6.4.126	D2RTOCBR — Driver2RemainingTimeOfCurrentBreakRest	46
6.4.127	D1RTUNBOR — Driver1RemainingTimeUntilNextBreakOrRest	46
6.4.128	D2RTUNBOR — Driver2RemainingTimeUntilNextBreakOrRest	47
6.4.129	D1OCITLW — Driver1OpenCompensationInTheLastWeek	47
6.4.130	D2OCITLW — Driver2OpenCompensationInTheLastWeek	47
6.4.131	D1OCIWBL — Driver1OpenCompensationInWeekBeforeLast	48
6.4.132	D2OCIWBL — Driver2OpenCompensationInWeekBeforeLast	48
6.4.133	D1OCI2WBL — Driver1OpenCompensationIn2ndWeekBeforeLast	48
6.4.134	D2OCI2WBL — Driver2OpenCompensationIn2ndWeekBeforeLast	49
6.4.135	D1AI — Driver1AdditionalInformation	49
6.4.136	D2AI — Driver2AdditionalInformation	50
6.4.137	MSSN — MotionSensorSerialNumber	50
6.4.138	RCFSN — RemoteCommunicationFacilitySerialNumber	50
6.4.139	EGNSSFSN — ExternalGNSSFacilitySerialNumber	51
6.4.140	STSSN — SmartTachographSealsSerialNumber	51
6.4.141	VSN — VuSerialNumber	51
6.4.142	BDLT — ByDefaultLoadType	51
6.4.143	TCG1S — TachographCardsGen1Suppression	52
6.4.144	VP — VehiclePosition	52
6.4.145	CC — CalibrationCountry	52
6.4.146	D1TLLUO — Driver1TimeLastLoadUnloadOperation	53
6.4.147	D2TLLUO — Driver2TimeLastLoadUnloadOperation	53
6.4.148	DCOPD — DriversConsentOnPrivateData	53
6.4.149	FTS — FerryTrainStatus	54

7 DTCs for tachograph system 54

Bibliography	55
---------------------------	-----------

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 31, *Data communication*.

This third edition cancels and replaces the second edition ([ISO 16844-7:2015](http://www.iso.org/iso/16844-7:2015)), which has been technically revised.

The main changes are as follows:

- part 5 of this series (ISO 16844-5) has been removed due to its technical irrelevance,
- correction of the typos and mistakes in the text,
- adoption of the content according to the new version of the ISO guidelines,
- adoption of the content according to the new technical requirements,
- alignment of the content regarding to the referred standards.

A list of all parts in the ISO 16844 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.

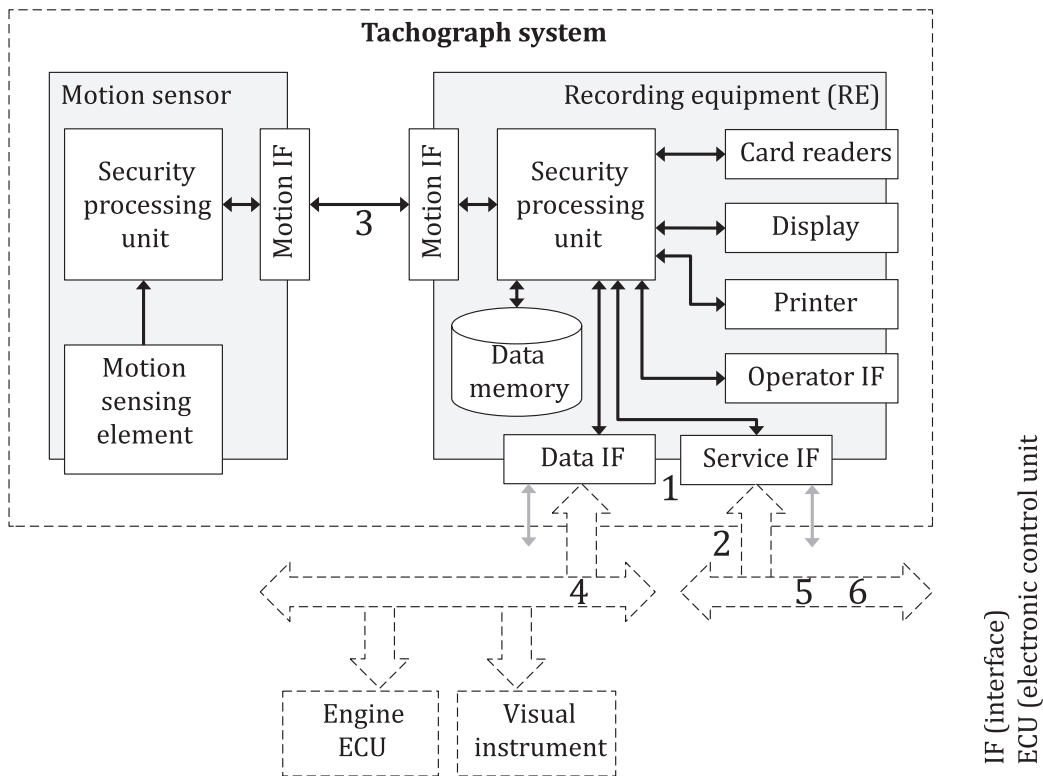
Introduction

This document supports and facilitates the communication between electronic control units (ECUs) and a digital tachograph.

The digital tachograph concept is based upon a recording equipment storing data, related to the activities of the various drivers driving the vehicle, on which it is installed.

During the normal operational status of the recording equipment, data stored in its memory are accessible to different entities (drivers, authorities, workshops, transport companies) in different ways (displayed on a screen, printed by a printing device, downloaded to an external device). Access to stored data are controlled by a smart card inserted in the tachograph.

A typical tachograph system is shown in [Figure 1](#).



Key

- | | | | |
|---|--|---|---|
| 1 | data and service IF connector standardized in ISO 16844-1 | 4 | CAN-based data IF including parameter groups standardized in ISO 16844-4 |
| 2 | electrical data and service IF requirements standardized in ISO 16844-2 | 5 | optional CAN-based service IF standardized in ISO 16884-6 |
| 3 | communication interface between motion sensor and RE standardized in ISO 16844-3 | 6 | data identifier (DID) specification for the optional service IF standardized in ISO 16844-7 |

Figure 1 — Typical ISO 16844 conformant tachograph system

Road vehicles — Tachograph systems —

Part 7: Parameters

1 Scope

This document specifies the parameters used on the service interface of the recording equipment. Some of them are specified in detail in this document, while others are given in the ISO 14299 series.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

[ISO 639-1](#), *Codes for the representation of names of languages — Part 1: Alpha-2 code*

[ISO/IEC 8859-1](#), *Information technology — 8-bit single-byte coded graphic character sets — Part 1: Latin alphabet No. 1*

[ISO 14229-1](#), *Road vehicles — Unified diagnostic services (UDS) — Part 1: Application layer*

[ISO 15031-6](#), *Road vehicles — Communication between vehicle and external equipment for emissions-related diagnostics — Part 6: Diagnostic trouble code definitions*

[ISO 16844-1](#), *Road vehicles — Tachograph systems — Part 1: Electromechanical components*

[ISO 16844-4](#), *Road vehicles — Tachograph systems — Part 4: Display unit communication interface*

SAE J1939-71, *Vehicle Application Layer*

SAE J1939DA, *Digital Annex*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in [ISO 16844-1](#) and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <https://www.iso.org/obp>

— IEC Electropedia: available at <https://www.electropedia.org/>

3.1

member state

member of some supranational or international body

EXAMPLE European Union.

4 Symbols and abbreviated terms

For the purposes of this document, the following symbols and abbreviated terms apply.

CAN	controller area network
Cvt.	convention
DID	data identifier
DTC	diagnostic trouble code
DSRC	dedicated short range communication
FTB	failure-type-byte
ECU	electronic control unit
GNSS	global navigation satellite system
M	mandatory
n/a	not applicable
R	accessible in reading using diagnostic services
RID	routine identifier
RMS	registering member state
R/W	accessible in reading and writing, using diagnostic services
SJW	resynchronisation jump width
t_q	time quantum
O	optional
UTC	universal time coordinated
VIN	vehicle identification number
VRN	vehicle registration number

5 Identifier specification for diagnostic services

5.1 Data identifiers (DID)

The DIDs used in the diagnostic services `ReadDataByIdentifier`, `WriteDataByIdentifier` and `InputOutputControlByIdentifier` as specified in [ISO 16844-6](#) shall be supported in accordance with [Table 1](#). The DIDs shall be implemented as specified in [Clause 6](#).

In general,

- assignment of identifiers shall comply with the definitions given in [ISO 14229-1](#),
- undefined identifiers in the range of tachograph IDs from F900₁₆ to F9FF₁₆ shall be reserved for future use, and
- identifiers in the range of F180₁₆ to F1A0₁₆ shall be implemented as specified in [ISO 14229-1](#) if not specified in [Clause 6](#).

Table 1 — Data identifier

Data Identifier name	Value [Hex]	Cvt.	Simplified mnemonic	Access	Specified in section
VehicleManufacturerSparePartNumber	F187	O	VMSPN	R/W	—
VehicleManufacturerECUSoftwareNumber	F188	O	VMECUSWN	R/W	—
VehicleManufacturerECUSoftwareVersionNumber	F189	O	VMECUSWVN	R/W	—
SystemSupplierIdentifier	F18A	M	SSID	R	—
ECUManufacturingDate	F18B	M	ECUMD	R	—
ECUSerialNumber	F18C	M	ECUSN	R	—
VehicleIdentificationNumber	F190	M	VIN	R/W	6.4.2
VehicleManufacturerECUHardwareNumber	F191	M	VMECUHWN	R/W	—
SystemSupplierECUHardwareNumber	F192	M	SSECUHWN	R	—
SystemSupplierECUHardwareVersionNumber	F193	M	SSECUHWVN	R	—
SystemSupplierECUSoftwareNumber	F194	M	SSECUSWN	R	—
SystemSupplierECUSoftwareVersionNumber	F195	M	SSECUSWVN	R	—
ExhaustRegulationOrTypeApprovalNumber	F196	M	EROTAN	R	—
SystemNameOrEngineType	F197	O	SNOET	R/W	—
RepairShopCodeOrTesterSerialNumber	F198	O	RSCOTSN	R/W	—
ProgrammingDate	F199	O	PD	R/W	—
CalibrationRepairShopCodeOrCalibrationEquipmentSerialNumber	F19A	M	CRSCOCESN	R/W	—
CalibrationDate	F19B	M	CD	R/W	—
CalibrationEquipmentSWNumber	F19C	M	CESWN	R/W	—
ECUInstallationDate	F19D	M	EID	R/W	—
ODXFileIdentifier	F19E	O	OFID	R/W	—
RemoteSessionDiagnosisticSessionType	F900	M	RSDST	R/W	—
TachographVehicleSpeed	F902	M	TVS	R	6.4.12
Driver1WorkingState	F903	M	D1WS	R	6.4.13
Driver2WorkingState	F904	M	D2WS	R	6.4.14
DriveRecognize	F905	M	DR	R	6.4.15
Driver1TimeRelatedStates	F906	M	D1TRS	R	6.4.16
Driver2TimeRelatedStates	F909	M	D2TRS	R	6.4.17
DriverCardDriver1	F907	M	DCD1	R	6.4.18
DriverCardDriver2	F90A	M	DCD2	R	6.4.19
OverSpeed	F908	M	OS	R	6.4.20
TimeDate	F90B	M	TD	R/W	6.4.21
ResetHeartbeatMessage	F90C	M	RHM	R/W	6.4.22
AdjustLocalMinuteOffset	F90D	M	ALMO	R/W	6.4.23
AdjustLocalHourOffset	F90E	M	ALHO	R/W	6.4.24
PriorityLevelOfTCO1Message	F90F	M	PLOTM	R/W	6.4.25
HighResolutionTotalVehicleDistance	F912	M	HRTVD	R/W	6.4.26
HighResolutionTripDistance	F913	M	HRTD	R/W	6.4.27
ServiceComponentIdentification	F914	M	SCI	R	6.4.28
ServiceDelayCalendarTimeBased	F915	M	SDCTB	R	6.4.29
Driver1Identification	F916	M	D1I	R	6.4.30

Data Identifier name	Value [Hex]	Cvt.	Simplified mnemonic	Access	Specified in section
Driver2Identification	F917	M	D2I	R	6.4.31
KFactor	F918	M	KF	R/W	6.4.32
SpeedMeasurementRange	F919	M	SMR	R	6.4.33
NumberOfTeethOnPhonicWheel	F91A	U	NOTOPW	R/W	6.4.34
TachographOutputShaftSpeed	F91B	M	TOSS	R	6.4.35
LFactorTyreCircumference	F91C	M	LFCT	R/W	6.4.36
WVehicleCharacteristicFactor	F91D	M	WVCF	R/W	6.4.37
PulsesPerRevolutionOfOutputShaft	F91E	M	PPROOS	R/W	6.4.38
TransmissionRepetitionRateOfTCO1Message	F920	M	TRROTM	R/W	6.4.39
TyreSize	F921	M	TS	R/W	6.4.40
NextCalibrationDate	F922	M	NCD	R/W	6.4.41
Driver1ContinuousDrivingTime	F923	M	D1CDT	R	6.4.42
Driver2ContinuousDrivingTime	F924	M	D2CDT	R	6.4.43
Driver1CumulativeBreakTime	F925	M	D1CBT	R	6.4.44
Driver2CumulativeBreakTime	F926	M	D2CBT	R	6.4.45
Driver1CurrentDurationOfSelectedActivity	F927	M	D1CDOSA	R	6.4.46
Driver2CurrentDurationOfSelectedActivity	F928	M	D2CDOSA	R	6.4.47
SpeedAuthorised	F92C	M	SA	R/W	6.4.48
TachographCardSlot1	F930	M	TCS1	R	6.4.49
TachographCardSlot2	F933	M	TCS2	R	6.4.50
Driver1Name	F931	M	D1N	R	6.4.51
Driver2Name	F932	M	D2N	R	6.4.52
OutOfScopeCondition	F936	M	OOSC	R	6.4.53
ModeOfOperation	F937	M	MOO	R	6.4.54
Driver1CumulatedDrivingTimePreviousAndCurrentWeek	F938	M	D1CDTPACW	R	6.4.55
Driver2CumulatedDrivingTimePreviousAndCurrentWeek	F939	M	D2CDTPACW	R	6.4.56
RealTimeSpeedPulses	F940	M	RTSP	R/W	6.4.57
EngineSpeed	F95A	U	ES	R	6.4.58
CalibrationInputOutput	F960	M	CIO	R	6.4.59
SynchronizationJumpWidth	F979	M	SJW	R/W	6.4.60
SamplePoint	F97A	M	SP	R/W	6.4.61
TimeOutMessageErrorDelay	F97B	M	TOMED	R/W	6.4.62
ErrorManagementInitialisationInhibition	F97C	M	EMII	R/W	6.4.63
RegisteringMemberState	F97D	M	RMS	R/W	6.4.64
VehicleRegistrationNumber	F97E	M	VRN	R/W	6.4.65
VehicleRegistrationDate	F97F	M	VRD	R/W	6.4.66
Driver1PreferredLanguage	F981	O	D1PL	R/W	6.4.67
Driver2PreferredLanguage	F982	O	D2PL	R/W	6.4.68
DriverCard1DownloadTimePeriod	F990	O	DC1DTP	R	6.4.69
DriverCard2DownloadTimePeriod	F983	O	DC2DTP	R	6.4.70
TachographDownloadTimePeriod	F991	O	TDTP	R	6.4.71
DriversHoursRulesPreWarningTimeDelay	F992	O	DHRPWTD	R/W	6.4.72
DriverCardExpiryWarningTimeDelay	F993	O	DCEWTD	R/W	6.4.73

Data Identifier name	Value [Hex]	Cvt.	Simplified mnemonic	Access	Specified in section
NextDriverCard1DownloadWarningTimeDelay	F994	0	NDC1DWTD	R/W	6.4.74
NextDriverCard2DownloadWarningTimeDelay	F984	0	NDC2DWTD	R/W	6.4.75
NextTachographDownloadWarningTimeDelay	F995	0	NTDWTD	R/W	6.4.76
NextCalibrationWarningTimeDelay	F996	0	NCWTD	R/W	6.4.77
Driver1EndOfLastDailyRestPeriod	F997	0	D1EOLDRP	R	6.4.78
Driver2EndOfLastDailyRestPeriod	F985	0	D2EOLDRP	R	6.4.79
Driver1EndOfLastWeeklyRestPeriod	F998	0	D1EOLWRP	R	6.4.80
Driver2EndOfLastWeeklyRestPeriod	F986	0	D2EOLWRP	R	6.4.81
Driver1EndOfSecondLastWeeklyRestPeriod	F999	0	D1EOSLWRP	R	6.4.82
Driver2EndOfSecondLastWeeklyRestPeriod	F987	0	D2EOSLWRP	R	6.4.83
Driver1CurrentDailyDrivingTime	F99A	0	D1CDDT	R	6.4.84
Driver2CurrentDailyDrivingTime	F988	0	D2CDDT	R	6.4.85
Driver1CurrentWeeklyDrivingTime	F99B	0	D1CWDT	R	6.4.86
Driver2CurrentWeeklyDrivingTime	F989	0	D2CWDT	R	6.4.87
Driver1TimeLeftUntilNewDailyRestPeriod	F99C	0	D1TLUNDRP	R	6.4.88
Driver2TimeLeftUntilNewDailyRestPeriod	F98A	0	D2TLUNDRP	R	6.4.89
Driver1CardExpiryDate	F99D	0	D1CED	R	6.4.90
Driver2CardExpiryDate	F98B	0	D2CED	R	6.4.91
Driver1CardNextMandatoryDownloadDate	F99E	0	D1CNMDD	R	6.4.92
Driver2CardNextMandatoryDownloadDate	F98C	0	D2CNMDD	R	6.4.93
TachographNextMandatoryDownloadDate	F99F	0	TNMDD	R	6.4.94
Driver1TimeLeftUntilNewWeeklyRestPeriod	F9A1	0	D1TLUNWRP	R	6.4.95
Driver2TimeLeftUntilNewWeeklyRestPeriod	F98D	0	D2TLUNWRP	R	6.4.96
Driver1NumberOfTimes9hDailyDrivingTimesExceeded	F9A0	0	D1NOT9HDDTE	R	6.4.97
Driver2NumberOfTimes9hDailyDrivingTimesExceeded	F98E	0	D2NOT9HDDTE	R	6.4.98
Driver1CumulativeUninterruptedRestTime	F9A2	0	D1CURT	R	6.4.99
Driver2CumulativeUninterruptedRestTime	F98F	0	D2CURT	R	6.4.100
Driver1MinimumDailyRest	F9A3	0	D1MDR	R	6.4.101
Driver2MinimumDailyRest	F9A7	0	D2MDR	R	6.4.102
Driver1MinimumWeeklyRest	F9A4	0	D1MWR	R	6.4.103
Driver2MinimumWeeklyRest	F9A8	0	D2MWR	R	6.4.104
Driver1MaximumDailyPeriod	F9A5	0	D1MDP	R	6.4.105
Driver2MaximumDailyPeriod	F9A9	0	D2MDP	R	6.4.106
Driver1MaximumDailyDrivingTime	F9A6	0	D1MDDT	R	6.4.107
Driver2MaximumDailyDrivingTime	F9AA	0	D2MDDT	R	6.4.108
Driver1NumberOfUsedReducedDailyRestPeriods	F9AB	0	D1NOURDRP	R	6.4.109
Driver2NumberOfUsedReducedDailyRestPeriods	F9AC	0	D2NOURDRP	R	6.4.110
Driver1RemainingCurrentDrivingTime	F9AD	0	D1RCDT	R	6.4.111
Driver2RemainingCurrentDrivingTime	F9AE	0	D2RCDT	R	6.4.112
Driver1RemainingDrivingTimeOnCurrentShift	F9AF	0	D1RDTOCS	R	6.4.113
Driver2RemainingDrivingTimeOnCurrentShift	F9B0	0	D2RDTOCS	R	6.4.114
Driver1RemainingDrivingTimeOfCurrentWeek	F9B1	0	D1RDTOCW	R	6.4.115
Driver2RemainingDrivingTimeOfCurrentWeek	F9B2	0	D2RDTOCW	R	6.4.116

Data Identifier name	Value [Hex]	Cvt.	Simplified mnemonic	Access	Specified in section
Driver1Remaining2WeeksDrivingTime	F9B3	O	D1R2WDT	R	6.4.117
Driver2Remaining2WeeksDrivingTime	F9B4	O	D2R2WDT	R	6.4.118
Driver1TimeLeftUntilNextDrivingPeriod	F9B5	O	D1TLUNDP	R	6.4.119
Driver2TimeLeftUntilNextDrivingPeriod	F9B6	O	D2TLUNDP	R	6.4.120
Driver1DurationOfNextDrivingPeriod	F9B7	O	D1DONDP	R	6.4.121
Driver2DurationOfNextDrivingPeriod	F9B8	O	D2DONDP	R	6.4.122
Driver1DurationOfNextBreakRest	F9B9	O	D1DONBR	R	6.4.123
Driver2DurationOfNextBreakRest	F9BF	O	D2DONBR	R	6.4.124
Driver1RemainingTimeOfCurrentBreakRest	F9C0	O	D1RTOCBR	R	6.4.125
Driver2RemainingTimeOfCurrentBreakRest	F9C1	O	D2RTOCBR	R	6.4.126
Driver1RemainingTimeUntilNextBreakOrRest	F9C2	O	D1RTUNBOR	R	6.4.127
Driver2RemainingTimeUntilNextBreakOrRest	F9C3	O	D2RTUNBOR	R	6.4.128
Driver1OpenCompensationInTheLastWeek	F9C7	O	D1OCITLW	R	6.4.129
Driver2OpenCompensationInTheLastWeek	F9C8	O	D2OCITLW	R	6.4.130
Driver1OpenCompensationInWeekBeforeLast	F9C9	O	D1OCIWBL	R	6.4.131
Driver2OpenCompensationInWeekBeforeLast	F9CA	O	D2OCIWBL	R	6.4.132
Driver1OpenCompensationIn2ndWeekBeforeLast	F9CB	O	D1OCI2WBL	R	6.4.133
Driver2OpenCompensationIn2ndWeekBeforeLast	F9CC	O	D2OCI2WBL	R	6.4.134
Driver1AdditionalInformation	F9CD	O	D1AI	R	6.4.135
Driver2AdditionalInformation	F9CE	O	D2AI	R	6.4.136
StandardRevision	F9CF	M	SD	R	6.4.1
MotionSensorSerialNumber	F9D0	M	MSSN	R	6.4.137
RemoteCommunicationFacilitySerialNumber	F9D1	M	RCFSN	R	6.4.138
ExternalGNSSFacilitySerialNumber	F9D2	M	EGNSSFSN	R	6.4.139
SmartTachographSealsSerialNumber	F9D3	M	STSSN	R/W	6.4.140
VuSerialNumber	F9D4	M	VSN	R	6.4.141
ByDefaultLoadType	F9D5	M	BDLT	R/W	6.4.142
TachographCardsGen1Suppression	F9D6	M	TCG1S	R/W	6.4.143
VehiclePosition	F9D7	M	VP	R	6.4.144
CalibrationCountry	F9D8	M	CC	R	6.4.145
Driver1TimeLastLoadUnloadOperation	F9D9	O	D1TLLUO	R	6.4.146
Driver2TimeLastLoadUnloadOperation	F9DA	O	D2TLLUO	R	6.4.147
DriversConsentOnPrivateData	F9DB	O	DCOPD	R	6.4.148
FerryTrainStatus	F9DC	O	FTS	R	6.4.149

5.2 Routine identifiers (RID)

The RIDs used in the diagnostic services RoutineControlByIdentifier specified in [ISO 16844-6](#) shall be in accordance with [Table 2](#).

Table 2 — Routine identifiers

Routine identifier	Value	Cvt.	Simplified mnemonic
TimeAdjustment	0100 ₁₆	O	TA
MotionSensorVehicleUnitPairing	014F ₁₆	O	MSVUP

Routine identifier	Value	Cvt.	Simplified mnemonic
DisplayTest	0150 ₁₆	0	DT
LCDNegativeModeTest	0151 ₁₆	0	LNMT
PrinterTest	0152 ₁₆	0	PT
HardwareTest	0153 ₁₆	0	HT
CarderReaderTest	0154 ₁₆	0	CRT
Reserved by document	0155 ₁₆	0	RBD
ButtonTestLoop	0156 ₁₆	0	BTL
CodeTest	0158 ₁₆	0	CT
RemoteTachographCardDataTransfer	0180 ₁₆	0	RTCDT

6 Parameters and values

6.1 Transmitted parameter ranges

The ranges used to determine the validity of a transmitted parameter, to denote the state of a discrete parameter as well as to denote the state of a control mode command shall be implemented as specified in SAE J1939-71.

Measured parameters have the access attribute R and status parameters have the access attribute R/W.

6.2 Structured parameters

When a parameter is structured, it shall be coded as specified [ISO 14229-1](#).

6.3 Date and time parameter specifications

6.3.1 Day

This parameter indicates the “day” of a date. The "day" parameter shall comply with the specification given in SAE J1939/71 (PG TD).

6.3.2 Month

This parameter indicates the “month” of a date. The "month" parameter shall comply with the specification given in SAE J1939/71 (PG TD).

6.3.3 Year

This parameter indicates the “year” of a date. The "year" parameter shall comply with the specification given in SAE J1939/71 (PG TD).

6.4 Parameter specifications

6.4.1 Standard revision

This parameter indicates the edition of the parts of the [ISO 16844](#) series being supported by the RE. The parameter shall be implemented as specified in [Table 3](#). If this parameter is not present, the implied values shall be 1 (first version) for all parts of the [ISO 16844](#) series.

Table 3 — Specification of parameter standard revision

Attribute	Value
Data length	7 byte
Resolution	1/bit
Offset	0
Operating range	Each byte is mapped to one part of the standard series: byte 1 — ISO 16844-1 (most significant byte) byte 2 — ISO 16844-2 etc. with these values assigned: 1 — 1 st edition 2 — 2 nd edition 3 — 3 rd edition etc.
DID	F9CF ₁₆
Access	R

6.4.2 VIN — VehicleIdentificationNumber

This parameter indicates the vehicle identification number (VIN) as assigned by the vehicle manufacturer. The parameter shall be implemented as specified in [Table 4](#).

Table 4 — Specification of parameter VIN

Attribute	Value
Data length	17 byte
Resolution	Not applicable
Offset	—
Operating range	In accordance with ISO/IEC 8859-1
DID	F190 ₁₆
Access	R/W

6.4.3 Trip group 1

This parameter requests to reset trip distance. The parameter shall be implemented as specified in SAE J1939DA (PG RESET).

6.4.4 System event

This parameter requests to drive a tachograph visual warning to the driver and indicate an occurred tachograph event. Events are implementation specific. The parameter shall be implemented according to SAE J1939DA (PG TCO1).

6.4.5 Handling information

This parameter indicates that handling information is present. The parameter shall be implemented according to SAE J1939DA (PG TCO1).

6.4.6 Tachograph performance

This parameter requests to indicate that the tachograph is performing the auto test. The parameter shall be implemented according to SAE J1939DA (PG TC01).

6.4.7 Direction indicator

This parameter indicates the direction of the vehicle motion (if any). The parameter shall be implemented according to SAE J1939DA (PG TC01).

6.4.8 Requested illumination percentage

This parameter requests the change of the illumination percentage of display and buttons. The parameter shall be implemented according to SAE J1939DA (PG CL).

6.4.9 Switch backlight illumination brightness per cent

This parameter indicates the switch backlight brightness level for all operator control switches. This is separate from the cab display illumination brightness per cent parameter. The parameter shall be implemented according to SAE J1939DA (PG CL).

6.4.10 Switch indication illumination brightness per cent

This parameter indicates the switch indication illumination brightness level for all operator control switches. This is separate from the cab display illumination brightness per cent parameter. The parameter shall be implemented according to SAE J1939DA (PG CL).

6.4.11 RSDST — RemoteSessionDiagnosticSessionType

This parameter indicates the value of the DiagnosticSessionType for the RemoteSession. The parameter shall be implemented as specified in [Table 5](#). The parameter shall have a value in the vehicleManufacturerSpecific or systemSupplierSpecific range according to [ISO 14229-1](#).

Table 5 — Specification of parameter RemoteSessionDiagnosticSessionType

Attribute	Value
Data length	1 byte
Operating range	40 ₁₆ to 7E ₁₆
DID	F900 ₁₆
Access	R/W

6.4.12 TVS — TachographVehicleSpeed

This parameter indicates the actual speed of the vehicle calculated by the tachograph. The parameter shall be implemented as specified in [Table 6](#).

Table 6 — Specification of parameter TachographVehicleSpeed

Attribute	Value
Data length	2 byte
Operating range	According to SAE J1939DA (PG TC01)
DID	F902 ₁₆
Access	R

6.4.13 D1WS — Driver1WorkingState

The parameters indicate the state of work of driver 1, i.e. activity currently selected on the recording equipment for the driver. The parameters shall be implemented as specified in [Table 7](#).

Table 7 — Specification of parameter Driver1WorkingState

Attribute	Value
Data length	3 bit
Operating range	000 ₂ — break/rest 001 ₂ — availability 010 ₂ — work 011 ₂ — driving 100 ₂ — reserved 101 ₂ — reserved 110 ₂ — error indicator 111 ₂ — not available
DID	F903 ₁₆
Access	R

6.4.14 D2WS — Driver2WorkingState

The parameters indicate the state of work of driver 2, i.e. activity currently selected on the recording equipment for the co-driver. The parameters shall be implemented as specified in [Table 8](#).

Table 8 — Specification of parameter Driver2WorkingState

Attribute	Value
Data length	3 bit
Operating range	000 ₂ — break/rest 001 ₂ — availability 010 ₂ — work 011 ₂ — driving 100 ₂ — reserved 101 ₂ — reserved 110 ₂ — error indicator 111 ₂ — not available
DID	F904 ₁₆
Access	R

6.4.15 DR — DriveRecognize

This parameter indicates whether motion of the vehicle is detected. Vehicle motion shall be indicated when more than 1 pulse/s (imp/s) is detected by the recording equipment from the motion sensor for at least 5 s. The parameter shall be implemented as specified in [Table 9](#).

Table 9 — Specification of parameter DriveRecognize

Attribute	Value
Data length	2 bit
Operating range	According to SAE J1939DA (PG TC01)
DID	F905 ₁₆
Access	R