# ISO 21219-25:2024-12 (E)

## Intelligent transport systems - Traffic and travel information (TTI) via transport protocol experts group, generation 2 (TPEG2) - Part 25: Electromobility charging infrastructure (TPEG2-EMI)

## Contents

Page


**Foreword** ..... **v**

**Introduction** ..... **vi**

**1 Scope** ..... **1**

**2 Normative references** ..... **1**

**3 Terms and definitions** ..... **2**

**4 Abbreviated terms** ..... **3**

**5 Application specific constraints** ..... **4**
5.1 Application identification ..... 4
5.2 Version number signalling ..... 4
5.3 Ordered components ..... 4
5.4 Extension ..... 4
5.5 TPEG service component frame ..... 4

**6 EMI structure** ..... **5**
6.1 Introduction ..... 5
6.2 EMI structuring considerations ..... 5
6.2.1 Information aggregation level: charging parks, charging stations, charging points ..... 5
6.2.2 Static vs. dynamic information: charging park information, charging park availability ..... 6
6.2.3 Request and response ..... 7
6.3 Pricing information ..... 9
6.4 EMI message structure ..... 10

**7 EMI message components** ..... **17**
7.1 EMIMessage ..... 17
7.2 MMCSwitch ..... 18
7.3 MMCMasterLink ..... 18
7.4 MMCPartLink ..... 18
7.5 MessageManagementContainerLink ..... 18
7.6 ChargingParkLocation ..... 19
7.7 ChargingParkAvailabilityVector ..... 19
7.8 ChargingParkInformation ..... 19
7.9 ChargingStationInformation ..... 20
7.10 DetailedChargingParkLocation ..... 20
7.11 ParkEntryLocation ..... 21
7.12 ParkExitLocation ..... 21
7.13 DetailedChargingStationLocation ..... 21
7.14 StationLocation ..... 21
7.15 ReservationRequest ..... 22
7.16 ReservationResponse ..... 23

**8 EMI Datatypes** ..... **24**
8.1 ConnectorType ..... 24
8.2 ChargingParkAvailability ..... 25
8.3 ChargingStationAvailability ..... 26
8.4 FreePlacesForConnectorType ..... 27
8.5 ChargingParkSiteDescription ..... 27
8.6 Logo ..... 28

8.7 OperatorContactInformation ..... 28
8.8 SizeRestrictions ..... 29
8.9 PricingInformation ..... 29
8.10 PaymentInformation ..... 29

**9 EMI tables ..... 29**

9.1 emi001:BillingModel ..... 29
9.2 emi003:Qualifier ..... 30
9.3 emi004:PaymentMethodType ..... 30
9.4 emi005:FacilityType ..... 31
9.5 emi006:AssociatedServiceType ..... 31
9.6 emi007:UserType ..... 31
9.7 emi008:StationType ..... 32
9.8 emi009:VehicleType ..... 32
9.9 emi010:Reservability ..... 33
9.10 emi011:ContactType ..... 33
9.11 emi012:PlugType ..... 33

**Annex A** (normative) **TPEG application, TPEG-Binary Representation ..... 35**

**Annex B** (normative) **TPEG application, tpegML representation ..... 50**

**Bibliography ..... 65**