

DIN EN ISO 18246:2017-12 (E)

Electrically propelled mopeds and motorcycles - Safety requirements for conductive connection to an external electric power supply (ISO 18246:2015)

Contents		Page
European foreword		4
Foreword		5
Introduction		6
1	Scope	7
2	Normative references	7
3	Terms and definitions	7
4	Environmental and operational conditions	12
5	General requirements	12
6	Connection between the plug or vehicle couplers and RESS of the vehicle	12
6.1	General connection	12
6.1.1	Connections among charger, RESS, and vehicle	12
6.1.2	General requirements for connection	13
6.1.3	Requirements for connection or no connection to the earth	14
6.1.4	Service life of the vehicle inlet	20
6.1.5	Vehicle behaviour during charging	20
6.2	A.C. connection	21
6.2.1	Requirements for the connection to a.c. supply network (mains)	21
6.2.2	Requirements of connection and/or disconnection process in a.c. contacts	21
6.2.3	Protection from unintended voltage for a.c. connection	21
6.3	D.C. connection	21
6.3.1	Requirements of connection and/or disconnection process in d.c. contacts	21
6.3.2	Protection from unintended voltage for d.c. connection	22
6.3.3	Specific requirements	22
7	Protection of persons against electric shock	22
7.1	General requirements	22
7.2	Requirements and measures for voltage class A on-board components	22
7.3	Requirements and measures for the voltage class B on-board charging system	22
7.3.1	Requirements for the on-board charging system	22
7.3.2	Protection under single failure conditions	23
7.3.3	Requirements of barrier/enclosures	23
7.3.4	Requirements of insulation	23
7.3.5	Requirements of potential equalization	23
7.4	Protection degrees	24
7.4.1	General	24
7.4.2	Requirements of the protection degree of barrier/enclosures against electric shock	24
8	Other requirements for the on-board charging system	24
8.1	General test requirements of on-board equipment	24
8.2	Degree of protection of on-board equipment	24
8.3	Dielectric withstand characteristics of on-board equipment	25
8.3.1	Test voltage not conductively connected to the parts	25
8.3.2	Dielectric withstand voltage of voltage class A direct current part	26
8.4	Isolation resistance requirements of on-board equipment	26
8.4.1	General	26
8.4.2	Additional protection measures for the a.c. circuit connected to the d.c. circuit of the on-board equipment	26

8.5	Creepage distance of on-board equipment	27
8.6	Clearance of on-board equipment.....	27
8.7	Touch current.....	28
8.8	Requirements for the emission of hazardous gases and other hazardous substances	28
8.9	Environmental tests	29
	8.9.1 General.....	29
	8.9.2 Ambient air temperature.....	29
	8.9.3 Ambient humidity.....	29
	8.9.4 Ambient air pressure	29
8.10	Permissible surface temperature.....	29
8.11	Environmental conditions.....	29
8.12	Unintentional charging system behaviour	30
8.13	Electromagnetic compatibility.....	30
	8.13.1 Susceptibility.....	30
	8.13.2 Emissions	30
8.14	Service	30
9	Marking, instructions, and indications.....	30
	9.1 Marking	30
	9.2 Legibility.....	30
	9.3 Connection instructions.....	31
	9.4 Indication.....	31
	Annex A (informative) Charging types.....	32
	Bibliography.....	39