BT Operational Equipment Power and Environment Standard

1 Scope

At BT we are committed to running our business responsibly. We strive to maintain high ethical principles and protect the environment. BT expects its suppliers to share its objective of doing the right thing.

BT is committed to the prevention of pollution and minimising the impact on the environment of its operations globally. Optimising the power and environmental performance of BT equipment serves to reduce energy consumption and reduce our carbon footprint.

This Generic Standard applies to Environment and Cooling equipment, AC and DC power supplies and equipment and power equipment for the Access Network. It also covers racks, cabinets and housing used in the BT Network and earthing and safety requirements.

2 Contractual Requirement

2.1 The supplier must immediately report to BT any serious breaches of this Generic Standard. BT will work collaboratively with the supplier to implement remedial actions. However, BT will also take action, which may include terminating its contract with the supplier, if the supplier is unwilling to make any appropriate changes requested by BT.

2.2 When requested by BT, the supplier will provide information to support their compliance to this Generic Standard and will warrant the accuracy and completeness of any information relating to the subject matter of this Generic Standard provided to BT prior to entry into their contract with BT. If any aspect of such information no longer remains true in any material respect during the term of their contract, the supplier will promptly submit to BT a written update to such information so that it remains true in all material respects.

2.3 Compliance with this Standard does not, of itself, confer immunity from legal obligations.

3 Supplier Requirements

4.1 Environmental conditions

4.1.1	The equipment will meet its normal operating performance when subjected to normal and exceptional environmental conditions as defined in the ETSI EN300 019 standard series as published by the European Telecommunications Standards Institute (ETSI)
4.1.2	Testing will be carried out in accordance with the requirements specified in the ETSI EN300 019 standard series. Test results will be provided upon request.

4.2 Specific Environmental Condition Requirements

4.2.1	Equipment designated for installation in specific types of internal and external locations will meet the specific requirements as listed below in Table 1.

Table 1 Installation Type Designation

Installation Type Designation	Environmental Condition Specification	Environmental Test Specification
Telephone exchange areas and general offices	ETSI EN 300 019-1-3[1]	ETSI EN 300 019-2-3[2]
	Class 3.1 Normal & Exceptional Conditions	Class 3.1 Normal & Exceptional Conditions
Outdoor Enclosures	ETSI EN 300 019-1-4[3] Class 4.1 Normal & Extended Conditions	ETSI EN 300 019-2-4[4]
		Class 4.1 Normal & Extended Conditions
Underground locations, e.g. footway boxes, etc.	ETSI EN 300 019-1-8[5]	ETSI EN 300 019-2-8[6]

4.2.2	Test results will be provided upon request
4.2.3	If the installation environment is not covered by the above descriptions, the supplier must obtain clarification for the standard required.

4.3 Generic Requirements for Electrical Supplies

4.3.1	Equipment Operated by Direct Current (D.C.)	Equipment that operates using a D.C. supply must meet the requirements of ETSI EN 300 132-2[7].
4.3.2	Equipment Operated by Alternating Current (A.C.) derived from Direct Current (D.C.)	Equipment which operates using an A.C. derived from a D.C. supply will meet the requirements of ETSI ETS 300 132-1[8].
4.3.3	Power Equipment for the Access Network	All power equipment for the access network will be in accordance with European Standard ETSI EN 302 099[9].
4.3.4	A.C. Power Input Standards	All power conversion and other equipment provided as part of telecommunications systems must work satisfactorily from an incoming A.C. supply derived either from the public mains supply or from the output of a standby generator. The supply will be within the following limits:-

Steady State	
Voltage	400/230 volts ±10%
Frequency	50 Hz +3.6% -1%
Total Harmonic Distortion (THD)	$\leq$ 6%
(Not including distortion caused by the equipment itself)	
Slow Transients (restoring to the continuous values above within 1-second voltage and 5-seconds frequency due to standby generator load changes)	
Voltage	400/230V ± 15%
Frequency	50 Hz ± 10%

4.4 Earthing and Safety Requirements

4.4.1	Equipment Earthing.	All equipment and installations will comply with the requirements of ETSI EN 300 253[10].
4.4.2	Safety Standards	All equipment procured for BT use within exchanges and non-operational buildings must conform to BS-EN 60950[11].
		Stationary batteries should meet the requirements of BS EN 50272-2[12].

4.5	**Approval of Power Systems Provided with Telecommunications Equipment**	All power systems providing D.C. or no break A.C. power supplies, supplied with telecommunications equipment must be subject to assessment and approval by BT Network Power and Cooling Unit.

4.6	**Equipment Racks, Cabinets and Miscellaneous Racks & Cabinets**	Rack, cabinets and miscellaneous racks and cabinets used for housing telecommunication and communication equipment will be compliant with the ETSI EN 300 119[13] standard series.

8. References

[1] ETSI EN 300 019-1-3 V2.3.2 (2009-11); Environmental Engineering (EE); Environmental conditions and environmental tests for telecommunications equipment; Part 1-3: Classification of environmental conditions; Stationary use at weather protected locations
[2] ETSI EN 300 019-2-3 V2.3.1 (2013-04); Environmental Engineering (EE); Environmental conditions and environmental tests for telecommunications equipment; Part 2-3: Specification of environmental tests; Stationary use at weather protected locations
[3] ETSI EN 300 019-1-4 V2.1.2 (2003-04); Environmental Engineering (EE); Environmental conditions and environmental tests for telecommunications equipment; Part 1-4: Classification of environmental conditions; Stationary use at non-weather protected locations
[4] ETSI EN 300 019-2-4 V2.3.1 (2013-06); Environmental Engineering (EE); Environmental conditions and environmental tests for telecommunications equipment; Part 2-4: Specification of environmental tests; Stationary use at non-weather protected locations
[5] ETSI EN 300 019-1-8 V2.1.4 (2003-04); Environmental Engineering (EE); Environmental conditions and environmental tests for telecommunications equipment; Part 1-8: Classification of environmental conditions; Stationary use at underground locations
[6] ETSI EN 300 019-2-8 V2.1.2 (1999-09); Equipment Engineering (EE); Environmental conditions and environmental tests for telecommunications equipment; Part 2-8: Specification of environmental tests; Stationary use at underground locations
[7] ETSI EN 300 132-2 V2.4.6 (2011-12); Environmental Engineering (EE); Power supply interface at the input to telecommunications and datacom (ICT) equipment; Part 2: Operated by -48 V direct current (dc)
[8] ETSI ETS 300 132-1 ed.1 (1996-09); Equipment Engineering (EE); Power supply interface at the input to telecommunications equipment; Part 1: Operated by alternating current (ac) derived from direct current (dc) sources
[9] ETSI EN 302 099 V1.1.1 (2002-01); Environmental Engineering (EE); Powering of equipment in access network
[10] ETSI EN 300 253 V2.1.1 (2002-04); Environmental Engineering (EE); Earthing and bonding of telecommunication equipment in telecommunication centres
[11] BS EN 60950; Information technology equipment. Safety General requirements
[12] BS EN 50272-2:2001; Safety requirements for secondary batteries and battery installations – Part 2: Stationary batteries.
[13] ETSI EN 300 119; Environmental Engineering (EE); European telecommunication standard for equipment practice;
-1 V2.1.1 (2004-09); Part 1: Introduction and terminology
-2 V2.2.2 (2009-12); Part 2: Engineering requirements for racks and cabinets
-3 V2.2.2 (2010-01); Part 3: Engineering requirements for miscellaneous racks and cabinets
-4 V2.1.1 (2004-09); Part 4: Engineering requirements for subracks in miscellaneous racks and cabinets
-5 V1.2.2 (2004-12); Part 5: Thermal management