TEST REPORT

EN 60950-1: 2006

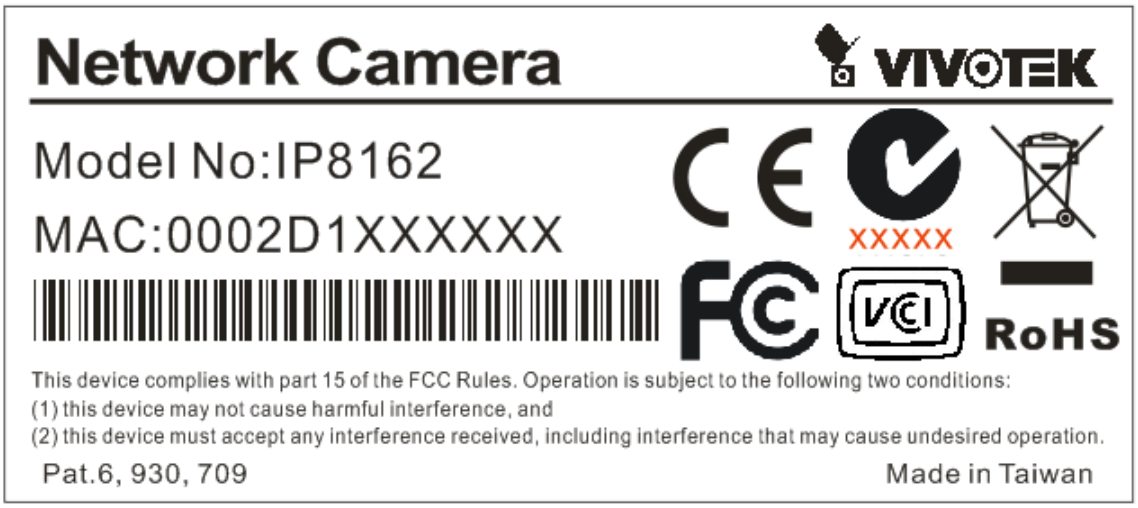
Information Technology Equipment – Safety – Part 1: General Requirements

Test Report No.:	**L110302-04-A0**
Client	
Name :	**VIVOTEK INC.**
Address :	**6F, No.192, Lien-Cheng Rd., Chung-Ho,New Taipei City, 235, Taiwan, R.O.C.**
Test Item :	**Network Camera**
Identification :	**IP8162, IP8162P**
Testing laboratory	
Name :	**Prodigy Technology Consultant Co., Ltd.**
Address :	**No.181, Sec. 2, Wunhua 1st Rd., Linkou District, New Taipei City 244, Taiwan CHINESE TAIPEI**
Test specification	
Standard :	**EN 60950-1:2006+A11:2009**
Test Result :	The test item passed.
Prepared By :	Signature Frank Chang Engineer 2011-05-06 Date
Approved By:	Signature Yama Cheng Super Viso 2011-05-06 Date
Other Aspects: The completed test report includes the following documents: ■ EN 60950-1 report (66 pages)	ilac-MRA TAF Testing Laboratory 1812

TEST REPORT EN 60950-1: 2006 Information Technology Equipment – Safety – Part 1: General Requirements	
Report Reference No.....:	L110302-04-A0
Tested by (+ signature) .....:	See cover sheet
Approved by (+ signature).....:	See cover sheet
Date of issue.....:	2011-05-06
Testing laboratory	
Name .....:	Prodigy Technology Consultant Co., Ltd.
Address.....:	No.181, Sec. 2, Wunhua 1st Rd., Linkou District, New Taipei City 244, Taiwan CHINESE TAIPEI
Testing location .....:	Prodigy Technology Consultant Co., Ltd.
Address.....:	No.181, Sec. 2, Wunhua 1st Rd., Linkou District, New Taipei City 244, Taiwan CHINESE TAIPEI
Applicant	
Name .....:	VIVOTEK INC.
Address.....:	6F, No.192, Lien-Cheng Rd., Chung-Ho,New Taipei City, 235, Taiwan, R.O.C.
Test specification	
Standard .....:	EN 60950-1: 2006+A11:2009
Test procedure .....:	CE Marking serial in LVD
Procedure deviation.....:	N/A
Non-standard test method.....:	N/A
Test Report Form/blank test report	
Test Report Form No. ..... :	IEC60950_1A
TRF originator. ..... :	SGS Fimko Ltd
Master TRF ..... :	2009-09
Test equipment	
Description.....:	Network Camera
Trademark .....:	VIVOTEK
Manufacturer .....:	Same as applicant
Model and/or type reference .....:	IP8162, IP8162P
Rating(s)……:	(Optional) 1. 12Vdc, 0.40 A (Power from adapter) 2. 48Vdc, 0.20 A (Power from Power over Ethernet) 3. 24Vac, 0.40 A, 50/60Hz (Power from AC Power Supply)

Summary of Testing: Unless otherwise indicated, all tests were conducted at Prodigy Technology Consultant Co., Ltd. / No.181, Sec. 2, Wunhua 1st Rd., Linkou District, New Taipei City 244, CHINESE TAIPEI	
Tests performed (name of test and test clause)	**Testing location / Comments**
1.6.2 - INPUT TEST: SINGLE-PHASE	
2.2.2,2.2.3,2.2.4, PART 22 6.1 – SELV RELIABILITY TEST	
2.5 - LIMITED POWER SOURCE MEASUREMENTS	
2.9.1,2.9.2,5.2.2 – HUMIDITY TEST	
2.10.2 - DETERMINATION OF WORKING VOLTAGE - WORKING VOLTAGE MEASUREMENT TEST	
2.10.2, PART 22 6.1 - DETERMINATION OF WORKING VOLTAGE - HAZARDOUS VOLTAGE (CIRCUIT) MEASUREMENT TEST	
2.10.5.9, 2.10.5.10, 2.10.5.6 – THIN SHEET MATERIAL TESTS	
2.10.5.13 - TRANSFORMER AND WIRE INSULATION ELECTRIC STRENGTH TEST	
4.2.1 - 4.2.4 – STEADY FORCE TESTS	
4.2.10 - LOADING TESTS – WALL AND CEILING MOUNTED EQUIPMENT	
4.5.1, 1.4.12, 1.4.13 - HEATING TEST	
5.2.2 - ELECTRIC STRENGTH TEST	
5.3.7 – OVERLOAD OF OPERATOR ACCESSIBLE CONNECTOR TEST	

Copy of marking plate and summary of test results (information/comments)



There are reference Labels. Final label shall be including the content of it.

Particulars: test item vs. test requirements

Equipment mobility	:	fixed
Operating condition	:	Continuous
Mains supply tolerance (%)		No direct connection
Tested for IT power systems	:	N/A
IT testing, phase-phase voltage (V)	:	N/A
Class of equipment	:	Class III
Mass of equipment (kg)	:	0.68 kg
Protection against ingress of water	:	IPX0

Test case verdicts

Test case does not apply to the test object	:	N/A
Test item does meet the requirement	:	Pass
Test item does not meet the requirement	:	Fail

Testing

Date of receipt of test item.....: 2011-03-02

Date(s) of performance of test.....: 2011-03-24 to 2011-04-07

General remarks

This test report shall not be reproduced except in full without the written approval of the testing laboratory.
The test results presented in this report relate only to the item tested.
"(see remark #)" refers to a remark appended to the report.
"(see appended table)" refers to a table appended to the report.
Throughout this report a point is used as the decimal separator.

Brief description of the test equipment

1) The equipment is a Class III Network Camera.
2) The maximum ambient temperature specified by manufacturer is 50 ^{o}C.
3) EUT Dimension: overall 62 by 72 by 156 mm.

Models difference

Model IP8162 is similar to model IP8162P, except for Lens control, SELV board and model designation.

Factory Location(s):

VIVOTEK INC.
6F, No.192, Lien-Cheng Rd., Chung-Ho,New Taipei City, 235, Taiwan, R.O.C.

Test condition

Temperature: 25℃
Relative humidity: 60%
Air pressure: 950 mbar

The test samples are pre-production without serial numbers.

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Clause	Requirement - Test	Result - Remark	Verdict
1	**GENERAL**		Pass
1.5	**Components**		Pass
1.5.1	General		Pass
	Comply with IEC 60950 or relevant component standard	(see appended table 1.5.1)	Pass
1.5.2	Evaluation and testing of components	Components certified to IEC harmonized standard and checked for correct application. Components not certified are used in accordance with their ratings and they comply with applicable parts of IEC 60950-1 and the relevant component Standard. Components, for which no relevant IEC-Standard exist, have been tested under the conditions occurring in the equipment, using applicable parts of IEC 60950-1.	Pass
1.5.3	Thermal controls		N/A
1.5.4	Transformers		Pass
1.5.5	Interconnecting cables	Interconnecting cables comply with the relevant requirements of this standard.	Pass
1.5.6	Capacitors bridging insulation	Class III equipment.	N/A
1.5.7	Resistors bridging insulation	Class III equipment.	N/A
1.5.7.1	Resistors bridging functional, basic or supplementary insulation		N/A
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits		N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		N/A
1.5.8	Components in equipment for IT power systems		N/A
1.5.9	Surge suppressors		N/A
1.5.9.1	General	Class III equipment.	N/A
1.5.9.2	Protection of VDRs		N/A
1.5.9.3	Bridging of functional insulation by a VDR		N/A
1.5.9.4	Bridging of basic insulation by a VDR		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A
1.6	**Power interface**		Pass
1.6.1	AC power distribution systems ..... :	Supplied by SELV.	N/A
1.6.2	Input current	The steady state input current of the equipment did not exceed the RATED CURRENT by more than 10% under normal load See appended table 1.6.2 for details	Pass
1.6.3	Voltage limit of hand-held equipment	This is not a hand-held equipment.	N/A
1.6.4	Neutral conductor		N/A
1.7	**Marking and instructions**		Pass
1.7.1	Power rating	Provided with DC or AC voltage rating. (Optional)	Pass
	Rated voltage(s) or voltage range(s) (V) ..... :	1) 12Vdc (Power from adapter) 2) 48Vdc (Power from Power over Ethernet) 3) 24Vac (Power from AC Power Supply)	Pass
	Symbol for nature of supply, for d.c. only ..... :	IEC 60417 No. 5031 provided on marking label for 1) 12Vdc (Power from adapter) 2) 48Vdc (Power from Power over Ethernet)	Pass
	Rated frequency or frequency range (Hz) ..... :	50/60Hz (Power from AC Power Supply)	Pass
	Rated current (mA or A) ..... :	1) 0.40 A (Power from adapter) 2) 0.20 A (Power from Power over Ethernet) 3) 0.40 A, 50/60Hz (Power from AC Power Supply)	Pass
	Manufacturer's name or trade-mark or identification mark ..... :	Manufacturer: VIVOTEK INC. or trade-mark: VIVOTEK	Pass
	Model identification or type reference ..... :	IP8162, IP8162P	Pass
	Symbol for Class II equipment only ..... :	Class III equipment.	N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	Other markings and symbols ..... :	Additional symbols may be provided when submitted for National Approval.	Pass
1.7.2	Safety instructions and marking	Safety instructions in English. Other languages will be provided when submitted for National Approval.	Pass
1.7.2.1	General		Pass
1.7.2.2	Disconnect devices		N/A
1.7.2.3	Overcurrent protective device		N/A
1.7.2.4	IT power distribution systems	Class III equipment.	N/A
1.7.2.5	Operator access with a tool		N/A
1.7.2.6	Ozone		N/A
1.7.3	Short duty cycles		N/A
1.7.4	Supply voltage adjustment ..... :		N/A
	Methods and means of adjustment; reference to installation instructions ..... :		N/A
1.7.5	Power outlets on the equipment ..... :		N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference) ..... :		N/A
1.7.7	Wiring terminals		N/A
1.7.7.1	Protective earthing and bonding terminals		N/A
1.7.7.2	Terminal for a.c. mains supply conductors		N/A
1.7.7.3	Terminals for d.c. mains supply conductors		N/A
1.7.8	Controls and indicators		N/A
1.7.8.1	Identification, location and marking ..... :	The function of controls affecting safety is obvious regardless of language.	Pass
1.7.8.2	Colours ..... :	Only functional indicators use color.	Pass
1.7.8.3	Symbols according to IEC 60417 ..... :		N/A
1.7.8.4	Markings using figures ..... :		N/A
1.7.9	Isolation of multiple power sources ..... :		N/A
1.7.10	Thermostats and other regulating devices ..... :		N/A
1.7.11	Durability	All markings provided on UL Recognized Component labels suitable for surface they are applied upon and meet the durability test.	Pass

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Clause	Requirement - Test	Result - Remark	Verdict
1.7.12	Removable parts	No marking is located on (a) removable part(s).	Pass
1.7.13	Replaceable batteries ..... :	There are no lithium batteries in the equipment.	N/A
	Language(s) .....:		--
1.7.14	Equipment for restricted access locations .....:	Equipment not intended for installation in a RESTRICTED ACCESS LOCATION.	N/A
2	**PROTECTION FROM HAZARDS**		Pass
2.1	**Protection from electric shock and energy hazards**		Pass
2.1.1	Protection in operator access areas		Pass
2.1.1.1	Access to energized parts	The unit is supplied from an external power supply or a PoE power source that provides SELV only.	Pass
	Test by inspection	The unit is supplied from an external power supply or a PoE power source that provides SELV only.	Pass
	Test with test finger (Figure 2A)		N/A
	Test with test pin (Figure 2B)		N/A
	Test with test probe (Figure 2C)	No TNV circuit.	N/A
2.1.1.2	Battery compartments		N/A
2.1.1.3	Access to ELV wiring	No internal wiring at ELV.	N/A
	Working voltage (Vpeak or Vrms); minimum distance through insulation (mm)		—
2.1.1.4	Access to hazardous voltage circuit wiring		N/A
2.1.1.5	Energy hazards	External power adapter or PoE power source is specified as power source without energy hazards. See table 1.5.1 for detail.	Pass
2.1.1.6	Manual controls	The equipment does not contain any knobs, handles, levers, or the like.	Pass
2.1.1.7	Discharge of capacitors in equipment	No primary circuits.	N/A
	Measured voltage (V); time-constant (s)		—
2.1.1.8	Energy hazards – d.c. mains supply		N/A
	a) Capacitor connected to the d.c. mains supply .		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	b) Internal battery connected to the d.c. mains supply ..... :		N/A
1.9	Audio amplifiers ..... :		N/A
2.1.2	Protection in service access areas	No bare parts operating at HAZARDOUS VOLTAGES in a service access area.	N/A
2.1.3	Protection in restricted access locations		N/A
2.2	**SELV circuits**		Pass
2.2.1	General requirements	Supplied by SELV.	Pass
2.2.2	Voltages under normal conditions (V) ..... :	Supplied by SELV. All accessible voltages are less than 42.4 V pk or 60 V dc and are classified as SELV.	Pass
2.2.3	Voltages under fault conditions (V)..... :	See append table 2.2.3 for detail.	Pass
2.2.4	Connection of SELV circuits to other circuits..... :	SELV circuits are only connected to other secondary circuits. SELV circuit and all interconnected circuits separated from primary by D/R insulation. The SELV circuit does not exceed the SELV limits under normal and fault conditions. SELV circuits are only connected to other SELV circuits. See append table 2.2.3 for detail.	Pass
2.3	**TNV circuits**		N/A
2.3.1	Limits		N/A
	Type of TNV circuits ..... :		—
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions		N/A
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed..... :		—

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Clause	Requirement - Test	Result - Remark	Verdict
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed ..... :		—
2.3.5	Test for operating voltages generated externally		N/A
2.4	**Limited current circuits**		N/A
2.4.1	General requirements		N/A
2.4.2	Limit values		N/A
	Frequency (Hz) ..... :		—
	Measured current (mA) ..... :		—
	Measured voltage (V) ..... :		—
	Measured capacitance (nF or µF) ..... :		—
2.4.3	Connection of limited current circuits to other circuits		N/A
2.5	**Limited power sources**		Pass
	a) Inherently limited output		Pass
	b) Impedance limited output		N/A
	c) Regulating network limited output under normal operating and single fault condition	See table 2.5 for details.	Pass
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA)	Unit is to be powered by an external adapter or POE with Limited Power Source, all accessible connectors are considered LPS. See table 2.5 for details.	—
	Current rating of overcurrent protective device (A)		—
2.6	**Provisions for earthing and bonding**		N/A
2.6.1	Protective earthing	Class III equipment.	N/A
2.6.2	Functional earthing		N/A
2.6.3	Protective earthing and protective bonding conductors		N/A
2.6.3.1	General		N/A
2.6.3.2	Size of protective earthing conductors		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	Rated current (A), cross-sectional area (mm^2), AWG ..... :		—
2.6.3.3	Size of protective bonding conductors		N/A
	Rated current (A), cross-sectional area (mm^2), AWG ..... :		—
	Protective current rating (A), cross-sectional area (mm^2), AWG ..... :		—
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min) ..... :		N/A
2.6.3.5	Colour of insulation ..... :		N/A
2.6.4	Terminals		N/A
2.6.4.1	General		N/A
2.6.4.2	Protective earthing and bonding terminals		N/A
	Rated current (A), type and nominal thread diameter (mm) ..... :		—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		N/A
2.6.5	Integrity of protective earthing		—
2.6.5.1	Interconnection of equipment		N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		N/A
2.6.5.3	Disconnection of protective earth		N/A
2.6.5.4	Parts that can be removed by an operator		N/A
2.6.5.5	Parts removed during servicing		N/A
2.6.5.6	Corrosion resistance		N/A
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A

2.7	**Overcurrent and earth fault protection in primary circuits**		N/A
2.7.1	Basic requirements		N/A
	Instructions when protection relies on building installation		N/A
2.7.2	Faults not simulated in 5.3.7		N/A
2.7.3	Short-circuit backup protection		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
2.7.4	Number and location of protective devices .....:		N/A
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel .....:		N/A
2.8	**Safety interlocks**		N/A
2.8.1	General principles		N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches and relays		N/A
2.8.7.1	Contact gaps (mm) .....:		N/A
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test (V)		N/A
2.8.8	Mechanical actuators		N/A
2.9	**Electrical insulation**		Pass
2.9.1	Properties of insulating materials	Natural rubber, materials containing asbestos and hygroscopic materials are not used as insulation.	Pass
2.9.2	Humidity conditioning		Pass
	Relative humidity (%), temperature (°C) .....:	RH 95%, 25 °C, 48 hrs.	—
2.9.3	Grade of insulation	Functional insulation complies with 5.3.4. Basic insulation complies with 2.2.4 and 5.2.2.	Pass
2.9.4	Separation from hazardous voltages		N/A
	Method(s) used .....:		—
2.10	**Clearances, creepage distances and distances through insulation**		Pass
2.10.1	General		Pass
2.10.1.1	Frequency	Less than 30KHz	Pass
2.10.1.2	Pollution degrees	Pollution degree 2 applicable.	Pass

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Clause	Requirement - Test	Result - Remark	Verdict
2.10.1.3	Reduced values for functional insulation	See sub-clause 5.3.4	Pass
2.10.1.4	Intervening unconnected conductive parts		N/A
2.10.1.5	Insulation with varying dimensions		N/A
2.10.1.6	Special separation requirements		N/A
2.10.1.7	Insulation in circuits generating starting pulses		N/A
2.10.2	Determination of working voltage		Pass
2.10.2.1	General		Pass
2.10.2.2	RMS working voltage	See table 2.10.2 for details.	Pass
2.10.2.3	Peak working voltage	See table 2.10.2 for details.	Pass
2.10.3	Clearances	All critical clearance distances are covered in power supply evaluation.	Pass
2.10.3.1	General		Pass
2.10.3.2	Mains transient voltages		N/A
	a) AC mains supply		N/A
	b) Earthed d.c. mains supplies		N/A
	c) Unearthed d.c. mains supplies		N/A
	d) Battery operation		N/A
2.10.3.3	Clearances in primary circuits		N/A
2.10.3.4	Clearances in secondary circuits	Functional insulation complies with 5.3.4. Basic insulation complies with 2.2.4 and 5.2.2.	Pass
2.10.3.5	Clearances in circuits having starting pulses		N/A
2.10.3.6	Transients from a.c. mains supply	OVC I: 1500Vpk.	Pass
2.10.3.7	Transients from d.c. mains supply		N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems		N/A
2.10.3.9	Measurement of transient voltage levels		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network .		N/A
2.10.4	Creepage distances	All circuits are SELV. Only functional insulation required.	Pass
2.10.4.1	General		Pass
2.10.4.2	Material group and comparative tracking index		Pass

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Clause	Requirement - Test	Result - Remark	Verdict
	CTI tests.....	Material group IIIb; 100 <= CTI < 175.	—
2.10.4.3	Minimum creepage distances		N/A
2.10.5	Solid insulation		Pass
2.10.5.1	General		Pass
2.10.5.2	Distances through insulation		N/A
2.10.5.3	Insulating compound as solid insulation		N/A
2.10.5.4	Semiconductor devices		N/A
2.10.5.5.	Cemented joints		N/A
2.10.5.6	Thin sheet material – General	Basic insulation is required.	Pass
2.10.5.7	Separable thin sheet material		N/A
	Number of layers (pcs)		—
2.10.5.8	Non-separable thin sheet material		N/A
2.10.5.9	Thin sheet material – standard test procedure		N/A
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure		N/A
	Electric strength test		—
2.10.5.11	Insulation in wound components		N/A
2.10.5.12	Wire in wound components		N/A
	Working voltage		N/A
	a) Basic insulation not under stress		N/A
	b) Basic, supplementary, reinforced insulation		N/A
	c) Compliance with Annex U		N/A
	Two wires in contact inside wound component; angle between 45° and 90°		N/A
2.10.5.13	Wire with solvent-based enamel in wound components		N/A
	Electric strength test		—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components		N/A
	Working voltage		N/A
	- Basic insulation not under stress		N/A
	- Supplementary, reinforced insulation		N/A
2.10.6	Construction of printed boards		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
2.10.6.1	Uncoated printed boards		N/A
2.10.6.2	Coated printed boards	No coated printed boards provided.	N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board		N/A
2.10.6.4	Insulation between conductors on different layers of a printed board		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs)		N/A
2.10.7	Component external terminations		N/A
2.10.8	Tests on coated printed boards and coated components		N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling		N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N/A
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts		N/A
3	**WIRING, CONNECTIONS AND SUPPLY**		Pass
3.1	**General**		Pass
3.1.1	Current rating and overcurrent protection	Interconnecting cable adequate for the current they intend to carry when the equipment is operating under normal load.	Pass
3.1.2	Protection against mechanical damage		N/A
3.1.3	Securing of internal wiring		N/A
3.1.4	Insulation of conductors		N/A
3.1.5	Beads and ceramic insulators		N/A
3.1.6	Screws for electrical contact pressure		N/A
3.1.7	Insulating materials in electrical connections		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
3.1.8	Self-tapping and spaced thread screws		N/A
3.1.9	Termination of conductors		N/A
	10 N pull test		N/A
3.1.10	Sleeving on wiring		N/A
3.2	**Connection to a mains supply**		N/A
3.2.1	Means of connection		N/A
3.2.1.1	Connection to an a.c. mains supply		N/A
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections		N/A
3.2.3	Permanently connected equipment		N/A
	Number of conductors, diameter of cable and conduits (mm) .....:		—
3.2.4	Appliance inlets		N/A
3.2.5	Power supply cords		N/A
3.2.5.1	AC Power supply cords		N/A
	Type .....:		—
	Rated current (A), cross-sectional area (mm^2), AWG .....:	.	—
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N) .....:		—
	Longitudinal displacement (mm) .....:		—
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards		N/A
	D (mm); test mass (g) .....:		—
	Radius of curvature of cord (mm).....:		—
3.2.9	Supply wiring space		N/A
3.3	**Wiring terminals for connection of external conductors**		N/A
3.3.1	Wiring terminals		N/A
3.3.2	Connection of non-detachable power supply cords		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm^2).....:		—
3.3.5	Wiring terminals sizes		N/A
	Rated current (A), type, nominal thread diameter (mm).....:		—
3.3.6	Wiring terminals design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Standard wire		N/A
3.4	**Disconnection from the mains supply**		N/A
3.4.1	General requirement		N/A
3.4.2	Disconnect devices		N/A
3.4.3	Permanently connected equipment	Not permanently connected equipment.	N/A
3.4.4	Parts which remain energised		N/A
3.4.5	Switches in flexible cords		N/A
3.4.6	Number of poles - single-phase and d.c. equipment		N/A
3.4.7	Number of poles - three-phase equipment		N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices		N/A
3.4.10	Interconnected equipment		N/A
3.4.11	Multiple power sources		N/A
3.5	**Interconnection of equipment**		Pass
3.5.1	General requirements		Pass
3.5.2	Types of interconnection circuits ..... :	Interconnection circuits are SELV CIRCUITS.	Pass
3.5.3	ELV circuits as interconnection circuits	No ELV interconnections.	N/A
3.5.4	Data ports for additional equipment	Only signal provided through the data ports.	Pass
4	**PHYSICAL REQUIREMENTS**		Pass

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Clause	Requirement - Test	Result - Remark	Verdict
4.1	Stability		Pass
	Angle of 10°	Based on construction, the test was deemed not necessary.	N/A
	Test: force (N) .....:		N/A
4.2	**Mechanical strength**		Pass
4.2.1	General	As there are no hazardous voltages present in the unit.	Pass
4.2.2	Steady force test, 10 N		N/A
4.2.3	Steady force test, 30 N	The equipment does not have any internal enclosures.	N/A
4.2.4	Steady force test, 250 N	No hazards as a result of the 250 N test.	Pass
4.2.5	Impact test		N/A
	Fall test		N/A
	Swing test		N/A
4.2.6	Drop test; height (mm) .....:		N/A
4.2.7	Stress relief		N/A
4.2.8	Cathode ray tubes	The equipment does not have any CRT's	N/A
	Picture tube separately certified ..... :		N/A
4.2.9	High pressure lamps	The equipment does not have any high pressure lamps.	N/A
4.2.10	Wall or ceiling mounted equipment; force (N) ...:	Mounting means withstands 5.2 Kg (50N).	Pass
4.3	**Design and construction**		Pass
4.3.1	Edges and corners	All edges and corners are judged to be sufficiently well rounded so as not to constitute a hazard.	Pass
4.3.2	Handles and manual controls; force (N).....:		N/A
4.3.3	Adjustable controls		N/A
4.3.4	Securing of parts		N/A
4.3.5	Connection by plugs and sockets		N/A
4.3.6	Direct plug-in equipment		N/A
	Torque .....:		—

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Clause	Requirement - Test	Result - Remark	Verdict
	Compliance with the relevant mains plug standard .....:		N/A
4.3.7	Heating elements in earthed equipment		N/A
4.3.8	Batteries		N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
4.3.9	Oil and grease		N/A
4.3.10	Dust, powders, liquids and gases		N/A
4.3.11	Containers for liquids or gases		N/A
4.3.12	Flammable liquids.....:		N/A
	Quantity of liquid (l).....:		N/A
	Flash point (°C).....:		N/A
4.3.13	Radiation		Pass
4.3.13.1	General	LED indicators.	Pass
4.3.13.2	Ionizing radiation		N/A
	Measured radiation (pA/kg) .....:		—
	Measured high-voltage (kV) .....:		—
	Measured focus voltage (kV) .....:		—
	CRT markings .....:		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials	The equipment does not contain lamps.	N/A
	Part, property, retention after test, flammability classification .....:		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation ...:	The equipment does not contain lamps.	N/A
4.3.13.5	Laser (including LEDs)	This product contains only visible indicator LEDs (Class 1) operating in the range of 400 - 710 nm wavelength. No IEC60825-1 evaluation was deemed necessary. Additional review may be required at the discretion of the accepting NCB.	Pass
	Laser class .....:	(For indicator LEDs, see above statement.)	—

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Clause	Requirement - Test	Result - Remark	Verdict
4.3.13.6	Other types .....:		N/A
4.4	**Protection against hazardous moving parts**		N/A
4.4.1	General		N/A
4.4.2	Protection in operator access areas		N/A
4.4.3	Protection in restricted access locations		N/A
4.4.4	Protection in service access areas		N/A
4.5	**Thermal requirements**		Pass
4.5.1	General		Pass
4.5.2	Temperature tests	(see appended table 4.5)	Pass
	Normal load condition per Annex L .....:	Operated in the most unfavorable way of operation given in the operating instructions until steady conditions established.	—
4.5.3	Temperature limits for materials	(see appended table 4.5)	Pass
4.5.4	Touch temperature limits	(see appended table 4.5)	Pass
4.5.5	Resistance to abnormal heat .....:		N/A
4.6	**Openings in enclosures**		Pass
4.6.1	Top and side openings	There are no openings on the enclosure.	Pass
	Dimensions (mm) ……..:	See above	—
4.6.2	Bottoms of fire enclosures	Circuit supplied by a limited power source complying with 2.5 and with components mounted on materials of Class V-1 or better. A Fire Enclosure not required.	Pass
	Construction of the bottom, dimensions (mm) ....:		—
4.6.3	Doors or covers in fire enclosures		N/A
4.6.4	Openings in transportable equipment		N/A
4.6.4.1	Constructional design measures		N/A
	Dimensions (mm) .....:		—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
4.6.5	Adhesives for constructional purposes	Adhesives not used for securement of internal barriers or screens.	N/A
	Conditioning temperature (°C), time (weeks).....:		—
4.7	**Resistance to fire**		Pass
4.7.1	Reducing the risk of ignition and spread of flame	See below for details.	Pass
	Method 1, selection and application of components wiring and materials	Materials with the required flammability classes are used.	Pass
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure	A fire enclosure is not required.	Pass
4.7.2.1	Parts requiring a fire enclosure		N/A
4.7.2.2	Parts not requiring a fire enclosure	Circuit supplied by a limited power source complying with 2.5 and with components mounted on materials of Class V-1 or better.	Pass
4.7.3	Materials		Pass
4.7.3.1	General	Components and materials have adequate flammability classification. See Table 1.5.1.	Pass
4.7.3.2	Materials for fire enclosures		N/A
4.7.3.3	Materials for components and other parts outside fire enclosures		Pass
4.7.3.4	Materials for components and other parts inside fire enclosures		Pass
4.7.3.5	Materials for air filter assemblies	The equipment does not have any air filters.	N/A
4.7.3.6	Materials used in high-voltage components	No high-voltage components.	N/A
5	**ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS**		Pass
5.1	**Touch current and protective conductor current**		Pass
5.1.1	General	Supplied by SELV. No primary circuits, no earthing.	N/A
5.1.2	Configuration of equipment under test (EUT)		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
5.1.2.1	Single connection to an a.c. mains supply		N/A
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N/A
5.1.3	Test circuit		N/A
5.1.4	Application of measuring instrument		N/A
5.1.5	Test procedure		N/A
5.1.6	Test measurements		N/A
	Supply voltage (V) .....:		—
	Measured touch current (mA) .....:		—
	Max. allowed touch current (mA) .....:		—
	Measured protective conductor current (mA) ....:		—
	Max. allowed protective conductor current (mA) :		—
5.1.7	Equipment with touch current exceeding 3,5 mA		N/A
5.1.7.1	General		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
5.1.8	Touch currents to and from telecommunication networks and cable distribution systems and from telecommunication networks		N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V) .....:		—
	Measured touch current (mA) .....:		—
	Max. allowed touch current (mA) .....:		—
5.1.8.2	Summation of touch currents from telecommunication networks .....:		N/A
	a) EUT with earthed telecommunication ports		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A

5.2	**Electric strength**		Pass
5.2.1	General		Pass
5.2.2	Test procedure	(see appended table 5.2)	Pass

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Clause	Requirement - Test	Result - Remark	Verdict
5.3	**Abnormal operating and fault conditions**		Pass
5.3.1	Protection against overload and abnormal operation		N/A
5.3.2	Motors		N/A
5.3.3	Transformers		N/A
5.3.4	Functional insulation ..... :	Functional insulation complies with the requirements (a), (b), or (c).	Pass
5.3.5	Electromechanical components		N/A
5.3.6	Audio amplifiers in ITE .....:		N/A
5.3.7	Simulation of faults		Pass
5.3.8	Unattended equipment		N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions		Pass
5.3.9.1	During the tests	No fire, emission of molten metal or deformation was noted during the tests.	Pass
5.3.9.2	After the tests		Pass
6	**CONNECTION TO TELECOMMUNICATION NETWORKS** .		N/A
6.1	Protection of telecommunication network service personnel, and users of other equipment connected to the network, from hazards in the equipment		N/A
6.1.1	Protection from hazardous voltages		N/A
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements		N/A
	Supply voltage (V) .....:		—
	Current in the test circuit (mA) .....:		—
6.1.2.2	Exclusions.....:		N/A
6.2	**Protection of equipment users from overvoltages on telecommunication networks**		N/A
6.2.1	Separation requirements		N/A
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test		N/A
6.2.2.2	Steady-state test		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
6.2.2.3	Compliance criteria		N/A
6.3	**Protection of telecommunication wiring system from overheating**		N/A
	Max. output current (A) .....:		—
	Current limiting method .....:		—
7	**CONNECTION TO CABLE DISTRIBUTION SYSTEMS**		N/A
7.1	General		N/A
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A
7.4	Insulation between primary circuits and cable distribution systems		N/A
7.4.1	General		N/A
7.4.2	Voltage surge test		N/A
7.4.3	Impulse test		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
A	**ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE**		N/A
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)		N/A
A.1.1	Samples		N/A
	Wall thickness (mm).....:		—
A.1.2	Conditioning of samples; temperature (°C) .....:		N/A
A.1.3	Mounting of samples.....:		N/A
A.1.4	Test flame (see IEC 60695-11-3)		N/A
	Flame A, B, C or D .....:		—
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s).....:		—
	Sample 2 burning time (s).....:		—
	Sample 3 burning time (s).....:		—
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		N/A
A.2.1	Samples		N/A
	Wall thickness (mm).....:		—
A.2.2	Conditioning of samples; temperature (°C) .....:		N/A
A.2.3	Mounting of samples.....:		N/A
A.2.4	Test flame (see IEC 60695-11-4)		N/A
	Flame A, B or C .....:		—
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s).....:		—
	Sample 2 burning time (s).....:		—
	Sample 3 burning time (s).....:		—
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9		N/A
	Sample 1 burning time (s).....:		—
	Sample 2 burning time (s).....:		—
	Sample 3 burning time (s).....:		—

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Clause	Requirement - Test	Result - Remark	Verdict
A.3	Hot flaming oil test (see 4.6.2)		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A
B	**ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)**		N/A
B.1	General requirements		N/A
	Position ..... :		—
	Manufacturer ..... :		—
	Type ..... :		—
	Rated values ..... :		—
B.2	Test conditions		N/A
B.3	Maximum temperatures		N/A
B.4	Running overload test		N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days) ..... :		—
	Electric strength test: test voltage (V) ..... :		—
B.6	Running overload test for DC motors in secondary circuits		N/A
B.7	Locked-rotor overload test for DC motors in secondary circuits		N/A
B.7.1	General		N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V) ..... :		N/A
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V) ..... :		—
C	**ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)**		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	Position .....:		—
	Manufacturer ..... :		—
	Type ..... :		—
	Rated values ..... :		
	Method of protection ..... .:		—
C.1	Overload test		N/A
C.2	Insulation		N/A
	Protection from displacement of windings ..... :		—
D	**ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)**		N/A
D.1			N/A
D.2	Alternative measuring instrument		N/A
E	**ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)**		N/A
F	**ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)**		Pass
G	**ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES**		N/A
G.1	Clearances		N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply .....:		N/A
G.2.2	Earthed d.c. mains supplies ..... :		N/A
G.2.3	Unearthed d.c. mains supplies ..... :		N/A
G.2.4	Battery operation .....:		N/A
G.3	Determination of telecommunication network transient voltage (V) .....:		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
G.4	Determination of required withstand voltage (V)		N/A
G.4.1	Mains transients and internal repetitive peaks ...:		N/A
G.4.2	Transients from telecommunication networks ....:		N/A
G.4.3	Combination of transients		N/A
G.4.4	Transients from cable distribution systems		N/A
G.5	Measurement of transient voltages (V)		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network		N/A
G.6	Determination of minimum clearances .....:		N/A
H	**ANNEX H, IONIZING RADIATION (see 4.3.13)**		N/A
J	**ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)**		N/A
	Metal(s) used .....:		—
K	**ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)**		N/A
K.1	Making and breaking capacity	No thermal control.	N/A
K.2	Thermostat reliability; operating voltage (V) ……:		N/A
K.3	Thermostat endurance test; operating voltage(V):		N/A
K.4	Temperature limiter endurance; operating voltage (V) .....:		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A
L	**ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)**		Pass
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment	Operated in the most unfavorable way of operation given in the operating instructions until steady conditions established.	Pass

M	**ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)**		N/A
M.1	Introduction		N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringing signal		N/A
M.3.1.1	Frequency (Hz) ..... :		—
M.3.1.2	Voltage (V) ..... :		—
M.3.1.3	Cadence; time (s), voltage (V) ..... :		—
M.3.1.4	Single fault current (mA) ..... :		—
M.3.2	Tripping device and monitoring voltage..... :		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V)..... :		N/A

N	**ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)**		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A

P	**ANNEX P, NORMATIVE REFERENCES**	Pass

Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		N/A
	a) Preferred climatic categories .....:		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	b) Maximum continuous voltage .....:		N/A
	c) Pulse current .....:		N/A
R	**ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES**		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A
S	**ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)**		N/A
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A
T	**ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)**		N/A
			—
U	**ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)**		N/A
	Separate test report		—
V	**ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)**		N/A
V.1	Introduction		N/A
V.2	TN power systems		N/A
W	**ANNEX W, SUMMATION OF TOUCH CURRENTS**		N/A
W.1	Touch current from electronic circuits		N/A
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
W.2.1	Isolation		N/A
W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		N/A
X	**ANNEX X, MAXIMUM HEATING EFFECT IN TRANSRORMER TESTS (see clause C.1)**		N/A
X.1	Determination of maximum input current		N/A
X.2	Overload test procedure		N/A
Y	**ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)**		N/A
Y.1	Test apparatus ..... :		N/A
Y.2	Mounting of test samples ..... :		N/A
Y.3	Carbon-arc light-exposure apparatus ..... :		N/A
Y.4	Xenon-arc light exposure apparatus ..... :		N/A
Z	**ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)**		Pass
AA	**ANNEX AA, MANDREL TEST (see 2.10.5.8)**		N/A
BB	**ANNEX BB, CHANGES IN THE SECOND EDITION**		N/A

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Clause	Requirement - Test	Result - Remark	Verdict

1.5.1	TABLE: List of critical components				Pass
object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity[1])
01. Power Adapter (optional)	Various	Various	O/P: 12Vdc, 0.4A minimum, complied with LPS.	EN 60950-1, UL 60950-1, UL 1310	Certified by third party
02. Power from AC Power Supply (optional)	Various	Various	O/P: 24Vac, 50/60Hz, 0.4A minimum, complied with LPS.	EN 60950-1, UL 60950-1,	Certified by third party
03. Enclosure	--	--	Al, 1.8 mm thickness minimum, overall 62 by 72 by 156 mm.	--	--
04. PWB	Various	Various	V-1 or better, 105 degree C	UL 796	UL
05. Transformer of POE Board (T1)	Coilcraft, Inc.	POE13F-12L	105 degree C. See Enclosure 4-03	--	--
05a. Alternate of transformer of POE Board (T1)	Acroparts Technology Co., Ltd.	POE13F-12L (13W12V)	105 degree C. See Enclosure 4-04	--	--
Supplementary information:					

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Clause	Requirement - Test	Result - Remark	Verdict

1.6.2	TABLE: Electrical data (in normal conditions)					Pass
U (V)	I (A)	I rated (A)	P (W)	Fuse #	I fuse (A)	condition/status
--	--	--	--	--	--	For Model IP8162
12Vdc	0.32	0.4	3.84	--	--	Maximum normal load
48Vdc	0.101	0.2	4.85	--	--	Maximum normal load
24Vac/50Hz	0.321	0.4	3.76	--	--	Maximum normal load
24Vac/60Hz	0.333	0.4	3.75	--	--	Maximum normal load
--	--	--	--	--	--	For Model IP8162P
12Vdc	0.31	0.4	3.80	--	--	Maximum normal load
48Vdc	0.10	0.2	4.82	--	--	Maximum normal load
24Vac/50Hz	0.318	0.4	3.65	--	--	Maximum normal load
24Vac/60Hz	0.322	0.4	3.66	--	--	Maximum normal load
"Maximum normal load" was defined as follows: Unit transfer video signal from RJ-45 connected to the computer and working continuously.						

Table 2.10.2, PART 22 6.1	Hazardous Voltage (Circuit) Measurement			Pass
Clearance (cl) and creepage distance (cr) at/of/between:	Up (V)	U r.m.s. (V)	Limiting component	
L1 Pin1-GND	--	48.3Vdc	--	
L1 Pin2-GND	--	48.3Vdc	--	
Q1 Pin5-GND	96Vac	---	--	
Q1 Pin4-GND	11.6Vac	--	--	
Q1 Pin1-GND	0	--	--	
T1 Pin5,6-Pin7,8	17.6Vac	--	--	
Note(s): T1 Pin 5, 6 was connected to earth.				

Table 2.2.3	SELV Reliability Test						Pass
No. Accessible Part From - To	Component No. (Voltage Limiting)	Fault	Test Voltage	Test time (Duration)	Fuse No.	Fuse Current (A)	Result Specify Maximum Vpk or V dc
Output connector	Q1 Pin5-Pin1	short	48Vdc	1sec	--	--	0
Note(s):--							

EN 60950-1:2006			
Clause	Requirement - Test	Result - Remark	Verdict

TABLE 2.5	**Limited Power Source Measurements**						Pass
Output Tested	Measured		Single Fault Condition	Maximum			Comments
	From	To		Uoc	Isc 5s	VA 5s	
Regulating network							
General I/O pin1	V+	V-	--	11.81	2.17	20.84	9.6V*2.17A
General I/O pin3	V+	V-	--	6.44	0.01	0.01	0.36V*0.01A
DC-iris pin1,3	V+	V-	--	3.23	1.51	1.601	1.06V*1.51A
General I/O pin1	V+	V-	--	11.81	2.17	20.84	9.6V*2.17A
Inherently limited							
General I/O pin2,4-8	V+	V-	--	0	--	--	--
RJ-45 All pins	V+	V-	--	0	--	--	--
Audio All pins	V+	V-	--	0	--	--	--
MIC All pins	V+	V-	--	0	--	--	--
Video out All pins	V+	V-	--	0	--	--	--
DC-iris pin2,4	V+	V-	--	0	--	--	--
Comments: 1.out put 12V LPS test only conducted on normal test waived abnormal test due to the power directly from Power source 12Vdc,24Vac,48Vdc(PoE) all complied with LPS 2.waived SD card port LPS test ,Due to the Port cored by metal enclosure							

2.6.3.4	**TABLE: Earthing Test**			N/A
Accessible Conductive Part	Current (Amps)	Voltage Drop (Volts)	Resistance (Ù)	
Note(s):				

2.10.2	**TABLE: Working Voltage Measurement Test**		Pass
Clearance and creepage distance dcr at/of:	Up (V)	U r.m.s. (V)	
T1 Pin 1,2 - 5,6	68.8	48.8	
Pin 1,2 - 7,8	66.4	58.4	
Pin 3 - 5,6	1.56	1.02	
Pin 3 - 7,8	19.2	13.6	

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Clause	Requirement - Test	Result - Remark	Verdict

Pin 10 - 5,6	18.4	14.5
Pin 10 - 7,8	5.44	1.57
Pin 11,12 - 5,6	96	65.9
Pin 11,12 - 7,8	80	60.7
C17 Pri.-Sec.	1.6	0.965
U2 Pin1 – Pin3	5.12	4.37
Pin1 – Pin4	7.12	6.43
U2 Pin2 – Pin3	4.08	3.49
Pin2 – Pin4	6.08	5.37
Note(s): T1 Pin 5, 6 was connected to earth.		

4.5	**TABLE: Temperature rise measurements**					Pass
	test voltage (V).....	See below	See below	See below	See below	--	—
	t1 (°C).....	--	--	--	--	--	—
	t2 (°C).....	--	--	--	--	--	—
maximum temperature T of part/at:		T (°C)					allowed Tmax (°C)
--		Maximum Normal Load at 12Vdc	Maximum Normal Load at 12Vdc (Shift to Tma)	Maximum Normal Load at 24Vac, 60Hz	Maximum Normal Load at 24Vac, 60Hz (Shift to Tma)	--	--
01.Ambient		22.6	50.0	22.9	50.0	--	--
02.DC jack		28.5	55.9	32.1	59.2	--	75.0
03.AC in connector		30.8	58.2	35.3	62.4	--	70.0
04.POE connector		30.9	58.3	35.2	62.3	--	--
05.L41 coil		31.5	58.9	36.1	63.2	--	105.0
06.U12 body		35.4	62.8	41.9	69.0	--	100.0
07.C301 body		33.1	60.5	39.3	66.4	--	85.0
08.C8 body		33.6	61.0	42.7	69.8	--	85.0
09.U2 body		34.3	61.7	46.6	73.7	--	100.0
10.T1 coil		34.5	61.9	48.3	75.4	--	90.0
11.T1 core		34.1	61.5	46.7	73.8	--	90.0
12.C71 body		35.6	63.0	46.5	73.6	--	85.0
13.PWB under U13		38.1	65.5	42.3	69.4	--	105.0
14.L71 coil		35.1	62.5	41.0	68.1	--	105.0
15.BT1 body		31.6	59.0	35.1	62.2	--	100.0
16.PWB under U7		32.1	59.5	36.2	63.3	--	105.0
17.PWB under 2X1		33.3	60.7	35.2	62.3	--	105.0
18.Metal enclosure near top		26.9	54.3	28.5	55.6	--	70.0
Test duration：		2.4 hrs	2.4 hrs	2.3 hrs	2.3 hrs	--	--
--		Maximum Normal Load at 48Vdc	Maximum Normal Load at 48Vdc	--	--	--	--

EN 60950-1:2006			
Clause	Requirement - Test	Result - Remark	Verdict

		(Shift to Tma)				
01.Ambient	22.3	50.0	--	--	--	--
02.DC jack	31.0	58.7	--	--	--	75.0
03.AC in connector	33.7	61.4	--	--	--	70.0
04.POE connector	33.5	61.2	--	--	--	--
05.L41 coil	34.5	62.2	--	--	--	105.0
06.U12 body	39.7	67.4	--	--	--	100.0
07.C301 body	37.2	64.9	--	--	--	85.0
08.C8 body	41.9	69.6	--	--	--	85.0
09.U2 body	45.8	73.5	--	--	--	100.0
10.T1 coil	48.0	75.7	--	--	--	90.0
11.T1 core	46.4	74.1	--	--	--	90.0
12.C71 body	45.9	73.6	--	--	--	85.0
13.PWB under U13	41.3	69.0	--	--	--	105.0
14.L71 coil	39.7	67.4	--	--	--	105.0
15.BT1 body	34.3	62.0	--	--	--	100.0
16.PWB under U7	35.3	63.0	--	--	--	105.0
17.PWB under 2X1	34.4	62.1	--	--	--	105.0
18.Metal enclosure near top	27.9	55.6	--	--	--	70.0
Test duration：	4.0 hrs	4.0 hrs	--	--	--	--

temperature T of winding:	R_1 (Ω)	R_2 (Ω)	T (°C)	allowed Tmax (°C)	insulation class
--	--	--	--	--	--

supplementary information:

Comments:

The temperatures were measured under worst case normal mode defined in 1.2.2.1 and as described in 1.6.1 at voltages as described in 1.6.5.

With a specified ambient temperature of 50 degree C, the max. temperature is calculated as follows:

Winding components:

- class A Tmax (degree C) = 100 degree C – 10 degree C = 90 degree C

Components with:

- max. absolute temp. of 105 degree C (Choke)
- max. absolute temp. of 85 degree C (Capacitor)
- max. absolute temp. of 105 degree C (PCB)
- max. absolute temp. of 100 degree C (Optocoupler, RTC Battery)

User accessible area:
- material is metal max. absolute temp. (70 degree C)

EN 60950-1:2006			
Clause	Requirement - Test	Result - Remark	Verdict

5.2	**TABLE: electric strength tests, impulse tests and voltage surge tests**			N/A
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Functional:				
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Basic/supplementary:				
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Reinforced:				
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
supplementary information:				

5.3	**TABLE: Fault condition tests**						Pass
	ambient temperature (°C)				See below		—
	model/type of power supply				--		—
	manufacturer of power supply				--		—
	rated markings of power supply				--		—
component No.	fault	test voltage (V)	test time	fuse No.	fuse current (A)	result	
--	--	--	--	--	--	5.3.7 - OVERLOAD OF OPERATOR ACCESSIBLE CONNECTOR TEST	
General I/O pin1	Overload	48Vdc	1hr	--	--	Open Voltage: 11.81V; Maximum Current: 1980mA, NC, NT	
General I/O pin2,4-8	Overload	48Vdc	0	--	--	Open Voltage: 0V; B	
General I/O pin3	Overload	48Vdc	1hr	--	--	Open Voltage: 6.44V; Maximum Current: 10mA, NC, NT	

EN 60950-1:2006						
Clause	Requirement - Test				Result - Remark	Verdict
DC-iris pin1,3	Overload	48Vdc	1hr	--	--	Open Voltage: 3.23V; Maximum Current: 1300mA, NC, NT
DC-iris pin2,4	Overload	48Vdc	0	--	--	Open Voltage: 0V; B
RJ-45 All pins	Overload	48Vdc	0	--	--	Open Voltage: 0V; B
Audio All pins	Overload	48Vdc	0	--	--	Open Voltage: 0V; B
MIC All pins	Overload	48Vdc	0	--	--	Open Voltage: 0V; B
Video out All pins	Overload	48Vdc	0	--	--	Open Voltage: 0V; B
supplementary information:						
Results Key: CT = Constant temperatures were obtained NB = No indication of dielectric breakdown NC = Cheesecloth remained intact NT = Tissue paper remained intact B = Circuit measures 0 volts.						

Enclosures

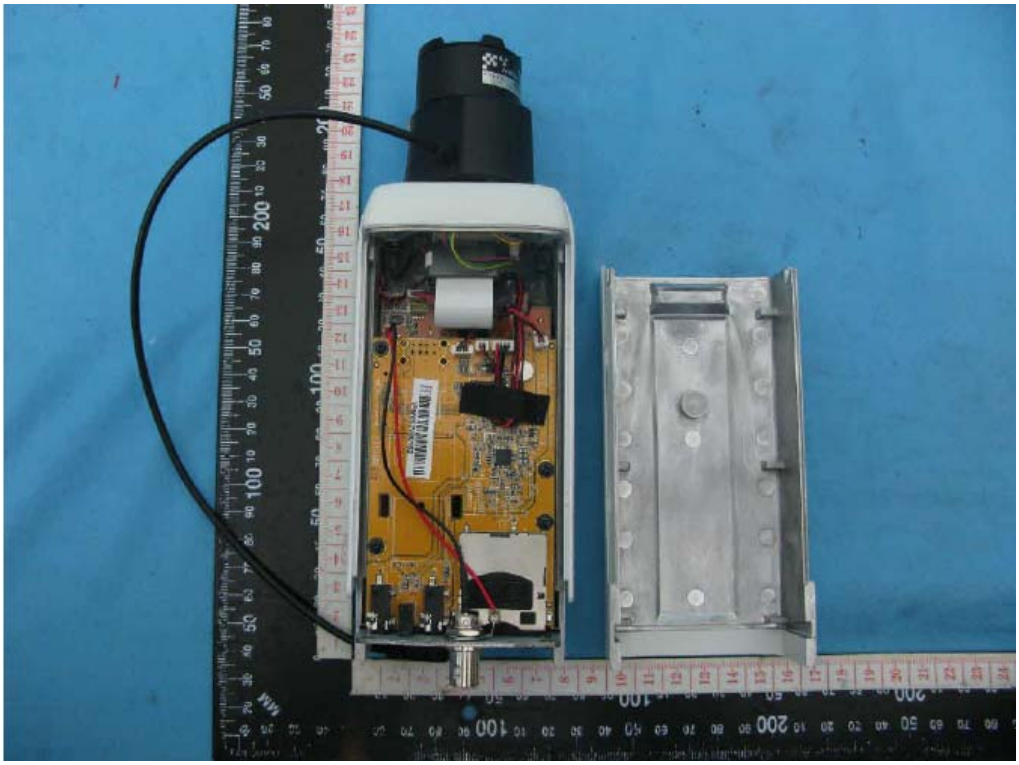
Type	Supplement Id	Description
Photographs	3-01	External view_1
Photographs	3-02	External view_2
Photographs	3-03	Connectors view
Photographs	3-04	Internal view
Photographs	3-06	Main board views
Photographs	3-07	IO board top side view
Photographs	3-08	IO board bottom side view
Photographs	3-09	PoE converter board view
Photographs	3-10	Lens board top side view
Photographs	3-11	Lens board bottom side view
Diagrams	4-01	Metal Chassis Dimension
Diagrams	4-02	Mounting Brackets Dimension
Diagrams	4-03	Transformer (T1) of POE Module Board
Diagrams	4-04	Transformer (T1) of POE Module Board
Manuals	6-01	Instructions (wall mount)

Photographs ID 3-01

Photographs ID 3-02

Photographs ID 3-03

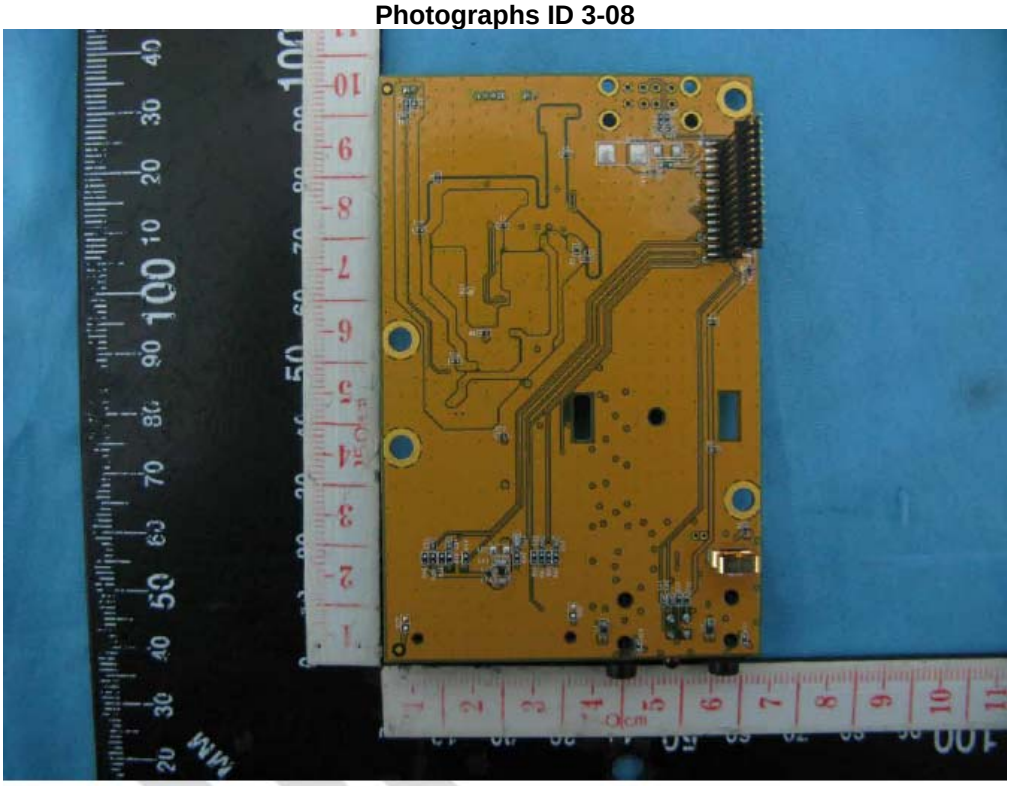
Photographs ID 3-04



Photographs ID 3-06

Photographs ID 3-07

Photographs ID 3-08



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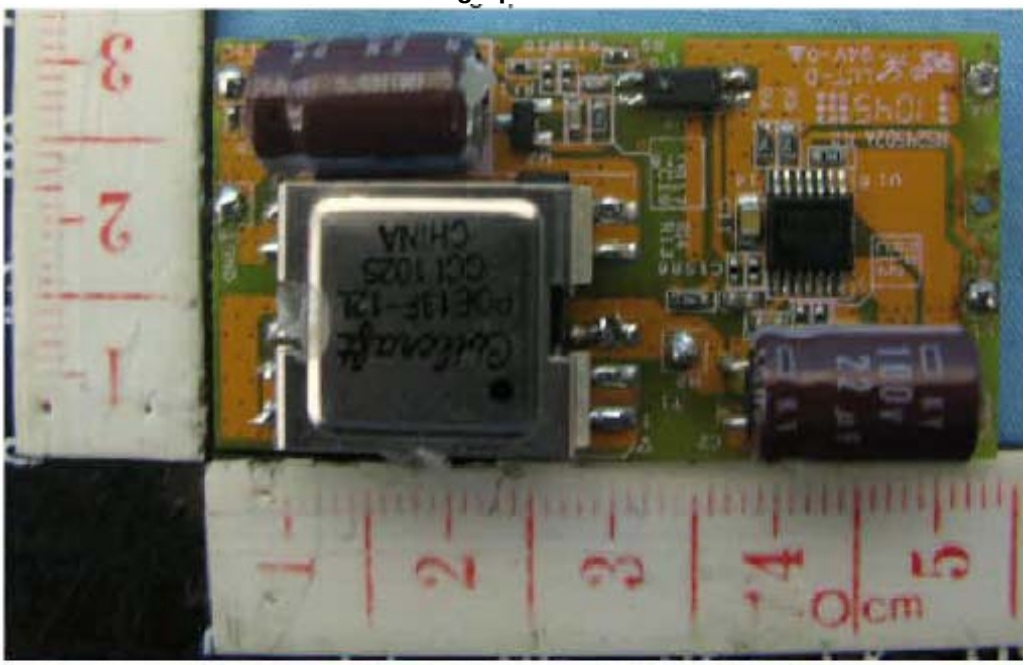

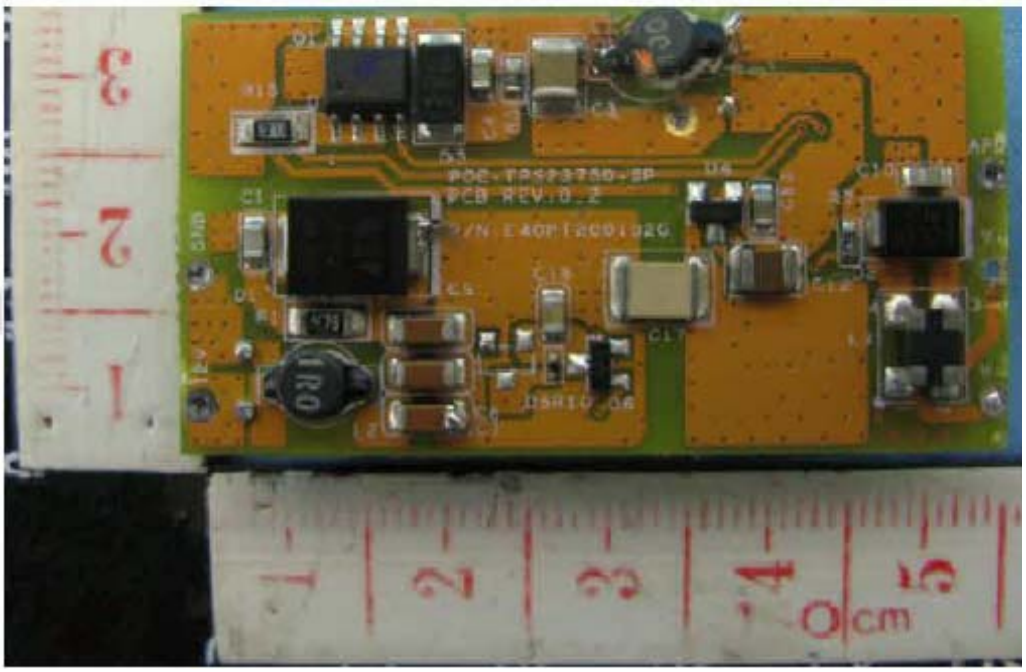

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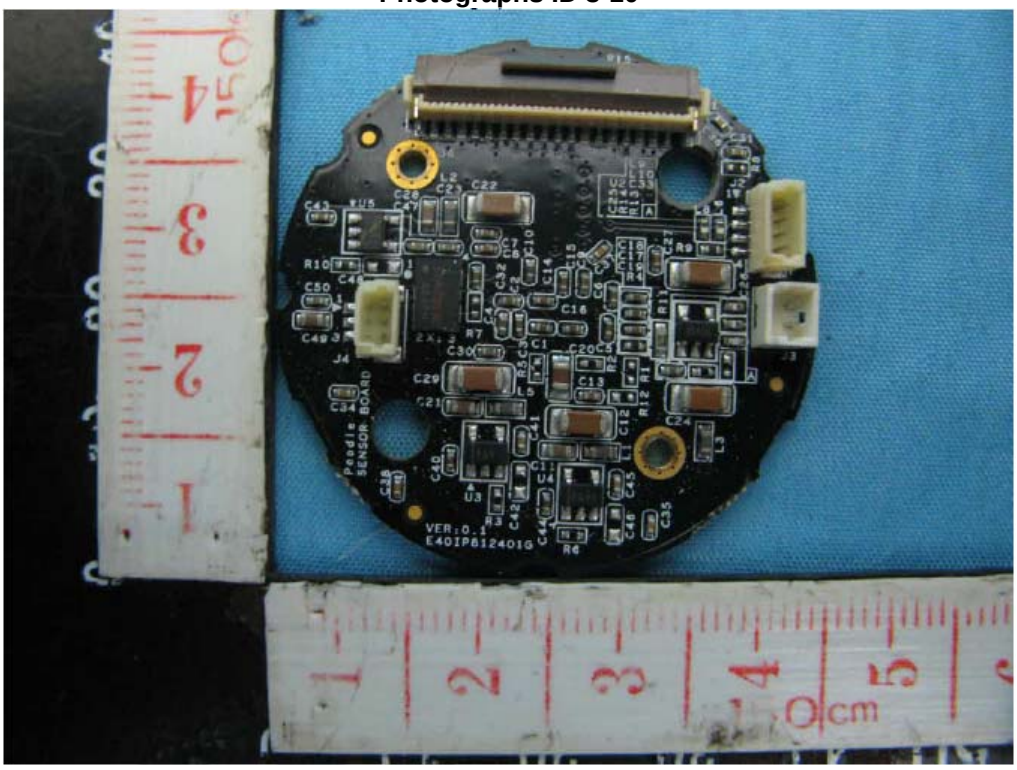

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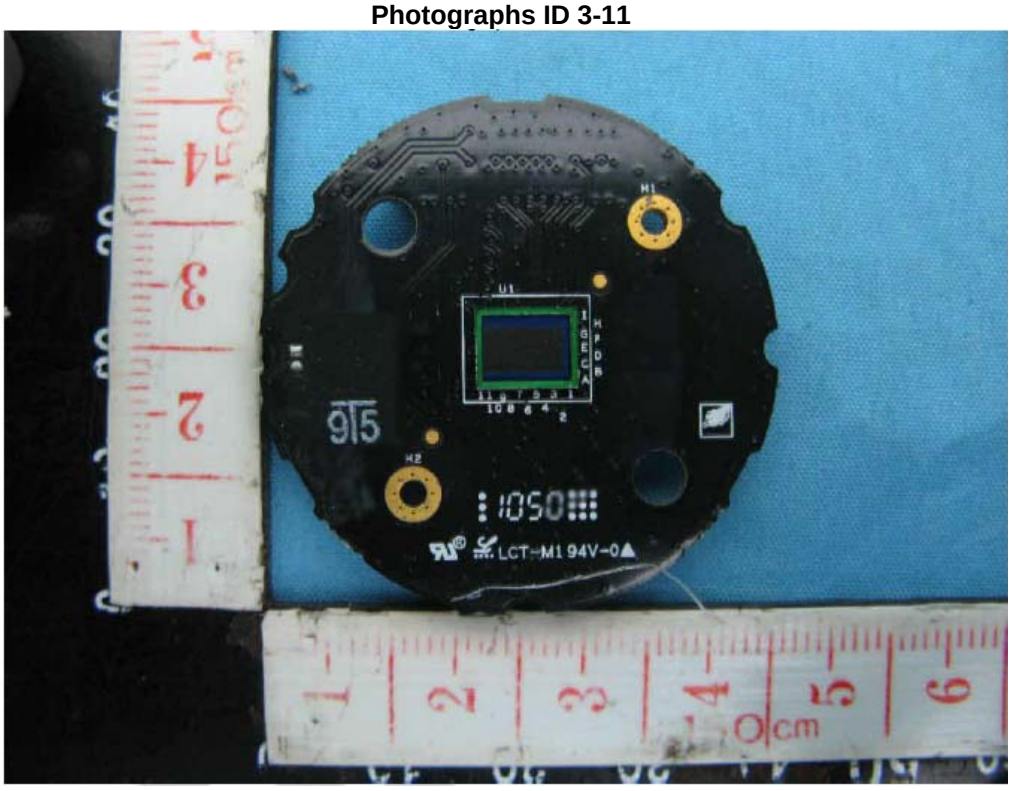
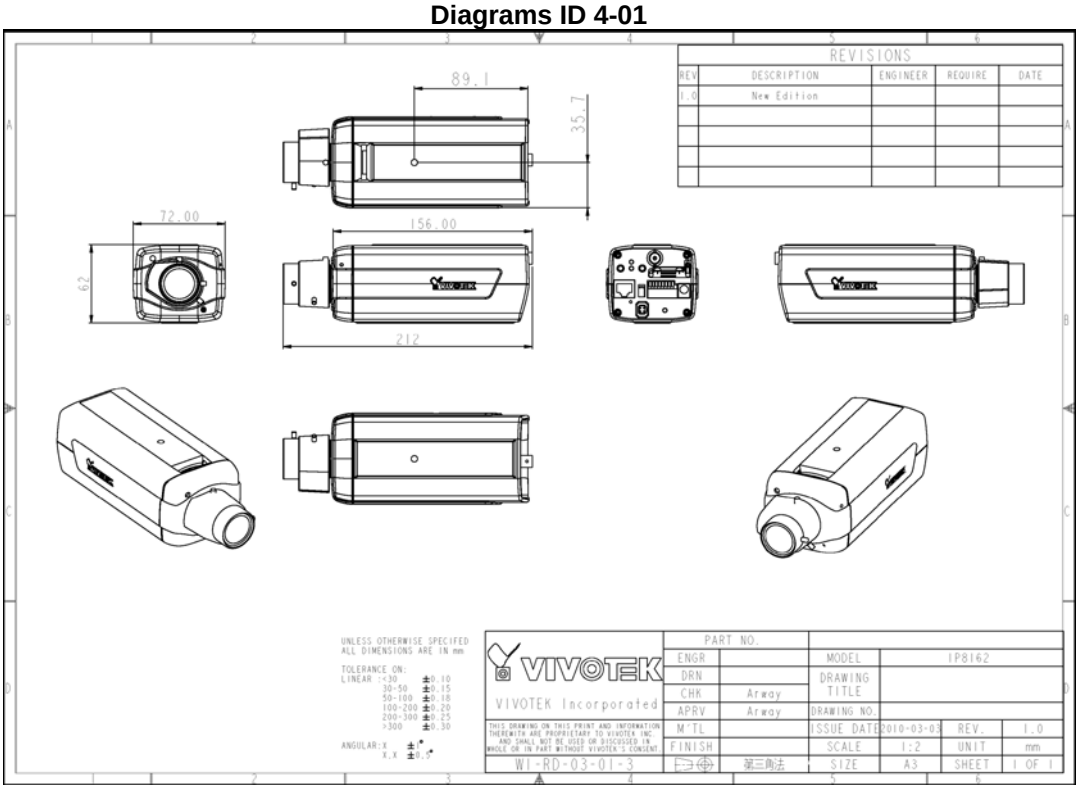


Diagrams ID 4-01



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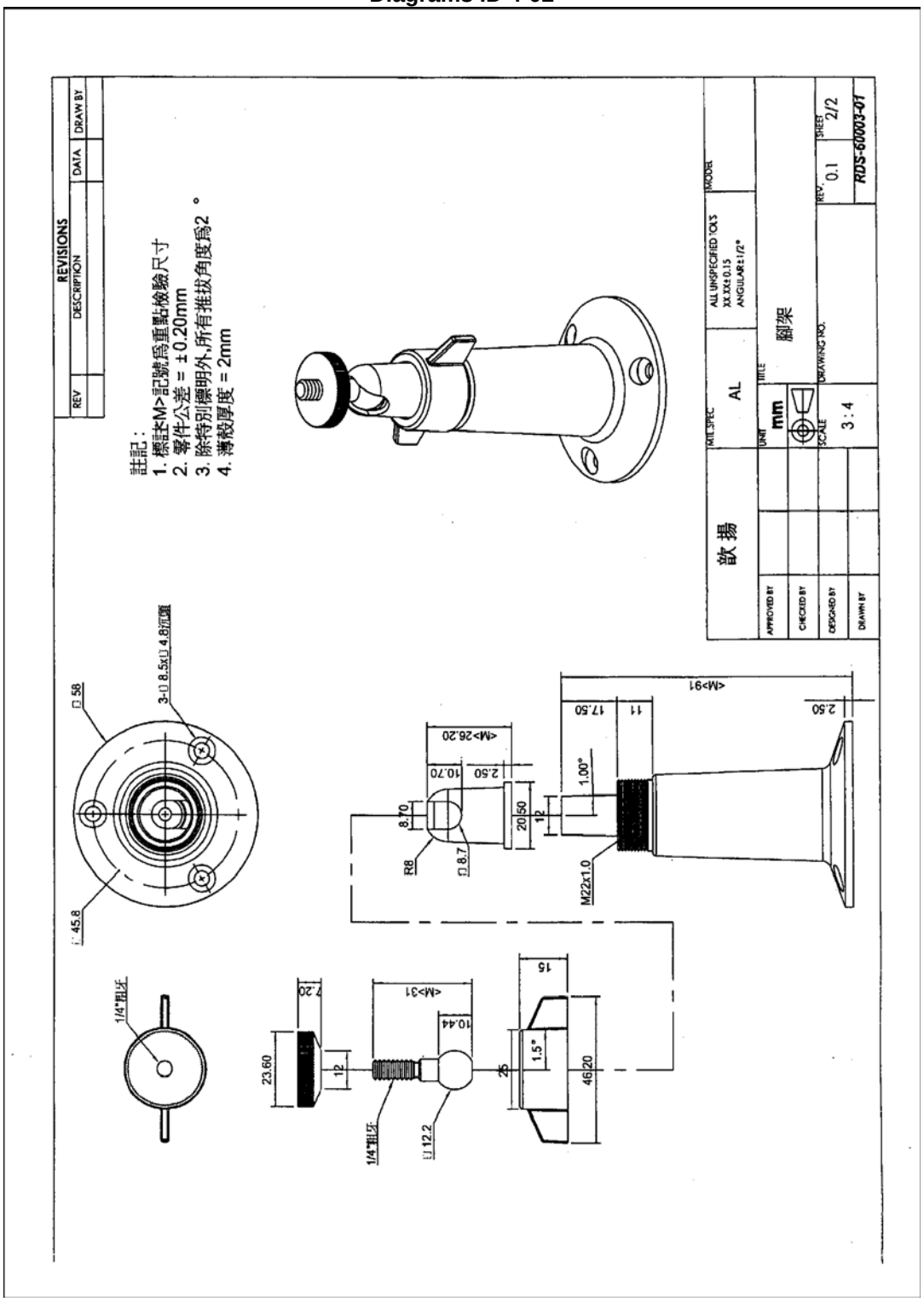

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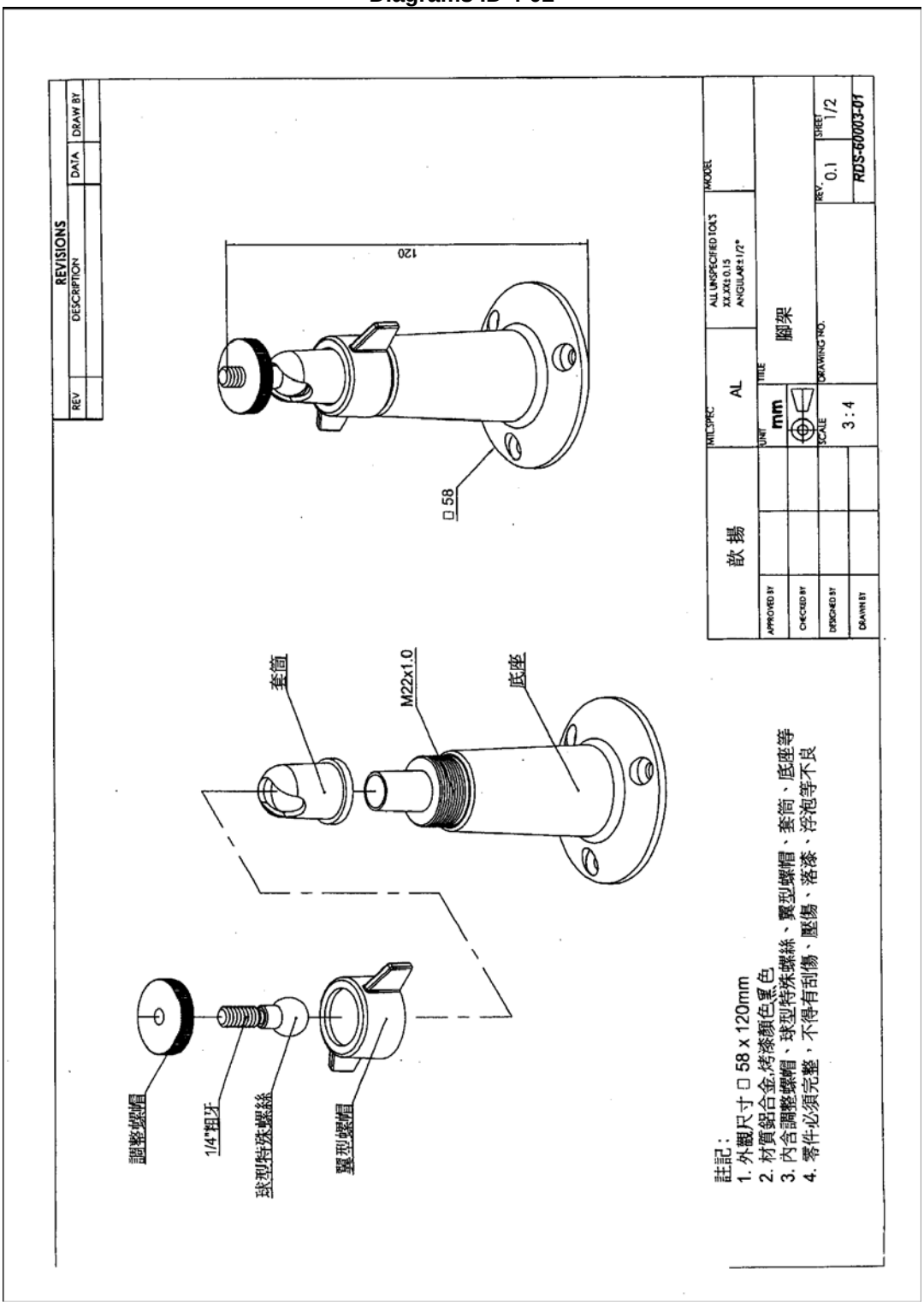


Diagrams ID 4-03

C O I L C R A F T C H I N A

梅县线艺电子有限公司

SPECIFICATION FOR APPROVAL

CUSTOMER : Vivotek

DESCRIPTION : transformer

CUSTOMER PART NO : POE13F-12L

COILCRAFT SAMPLE NO : POE13F-12L

APPROVED BY : Holly Wen DATE : 2007-11-08

PREPARED BY : Jim Wang DATE : 2007-11-08

CUSTOMER APPROVAL SIGNATURE

DISPOSITION :

☐ APPROVED ☐ REJECTED ☐ OTHERS

AUTHORIZED SIGNATURE :

DATE :

XiYang Town, MeiXian City GuangDong Province 514768 P.R. China 广东省梅州市梅县西阳镇
TEL : 0753-2882830/2882831 FAX : 0753-2884267

Diagrams ID 4-03

1. ELECTRICAL SPECIFICATION :

Part number1 *Click for samples*	Power (W)	L at 0 A ±10%2 (µH)	L at Ipk ±10%3 (µH)	DCR (Ohms) pri	sec	bias	Leakage L max4 (µH)	Turns ratio pri : sec	pri : bias	Ipk3 (A)	Secondary output5
POE13F-12L	13	35.0	31.5	0.095	0.017	0.150	0.6	1 : 0.35	1 : 0.35	2.1	12 V, 1.1 A

1 When ordering, please specify **packaging** code: e.g. POE13F-12L**D**

Packaging: **D = 13" machine-ready reel**
EIA 481 embossed plastic tape (200 parts per full reel).
B = Less than full reel
In tape, but not machine-ready. To have a leader and trailer added ($25 charge), use code letter D instead.

2 Inductance tested at 250 kHz, 0.3 Vrms, 0 Adc

3 Peak primary current drawn at minimum input voltage.

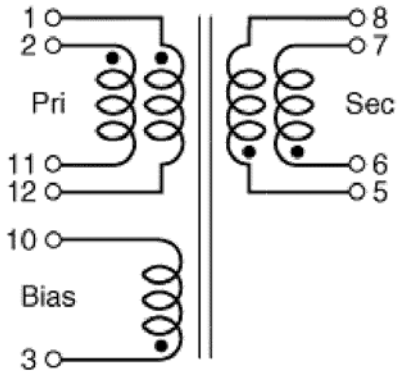
4 Leakage inductance is for the primary winding with the secondary winding shorted.

5 Bias winding output: 12 V, 0.2 A.

6 Operating temperature range –40°C to +125°C.

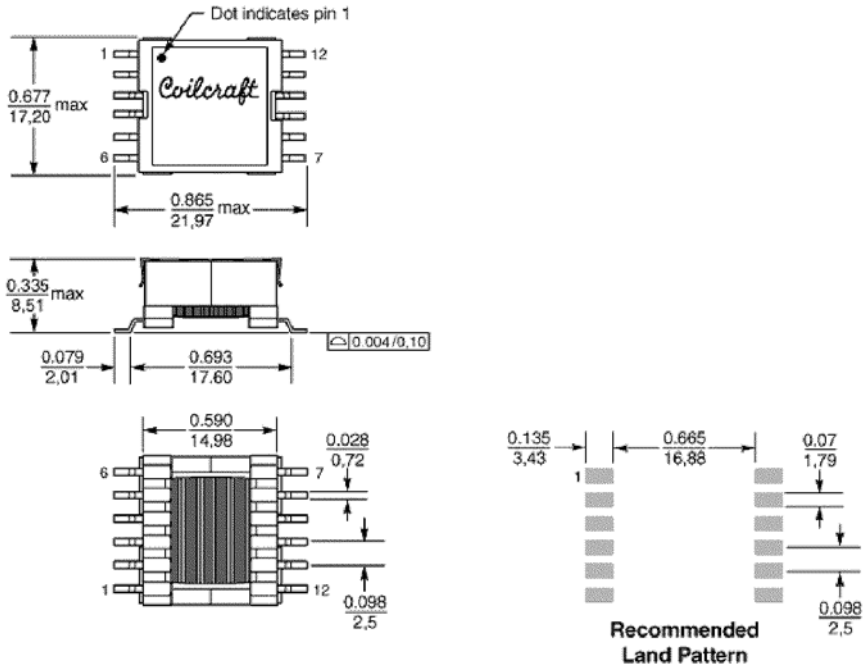
7 Electrical specifications at 25°C.

2. Schematic



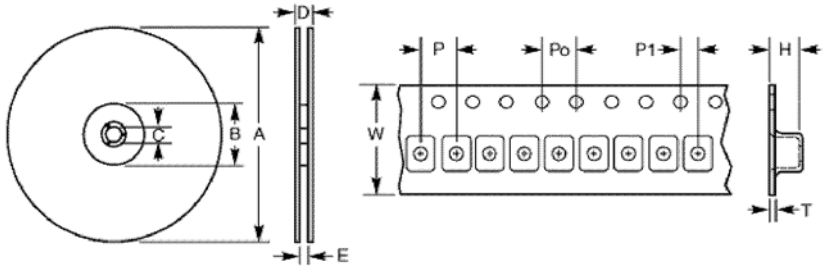
Diagrams ID 4-03

3. DIMENSION :



4. PACKING SPECIFICATION :

Diagrams ID 4-03



Parts per reel	Reel dimensions (mm)					Tape dimensions (mm)						Orientation
13" (330 mm)	A	B	C	D	E	W	P	Po	P1	H	T	
200	330	100	13	50,4	44,4	44	28	4	2	9,6	0,4	

Diagrams ID 4-04

ATC 碩哲科技股份有限公司
ISO9001 ACROPARTS TECHNOLOGY CO.,LTD.

SPECIFICATION FOR APPROVAL

CUSTOMER：	晶睿通訊股份有限公司
CUSTOMER P/N：	POE13F-12L
ATC P/N：	13W12V SW-FD15SH-5201-10035
QUANTITY：	5 PCS
DATE：	2010.10.29

Please confirm your acceptance of this approval sheet by return fax.

☐ APPROVED

☐ REJECTED

RoHS
危害物質限用

DRAWN BY	CHECKED BY	APPROVED BY
林月霞 Alice	張德名 Richard	葉任銘 J.M.Yeh

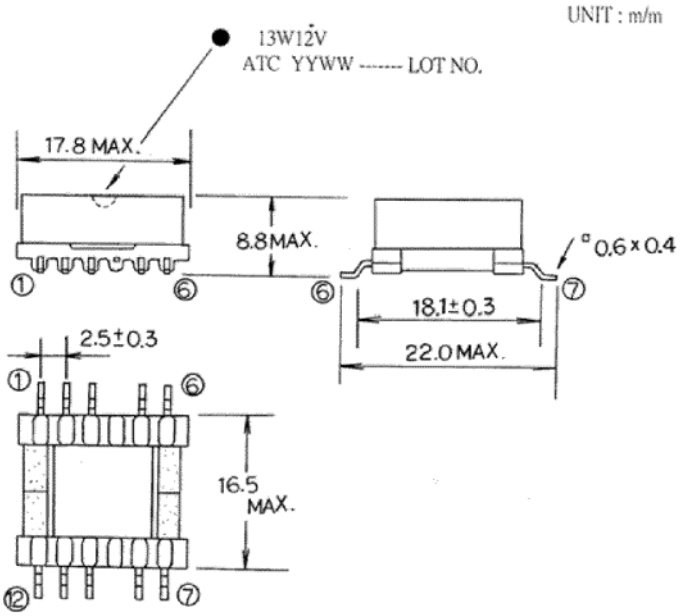
Acroparts Technology Co., Ltd.
1F No.16 Tze Chiang St. Yangmei, Taoyuan, Taiwan
TEL：+886-3-4881133 FAX：+886-3-4881177

Diagrams ID 4-04

ATC 碩哲科技股份有限公司
ISO9001 ACROPARTS TECHNOLOGY CO.,LTD.

13W12V Series Specification

6 Configuration and Dimensions:



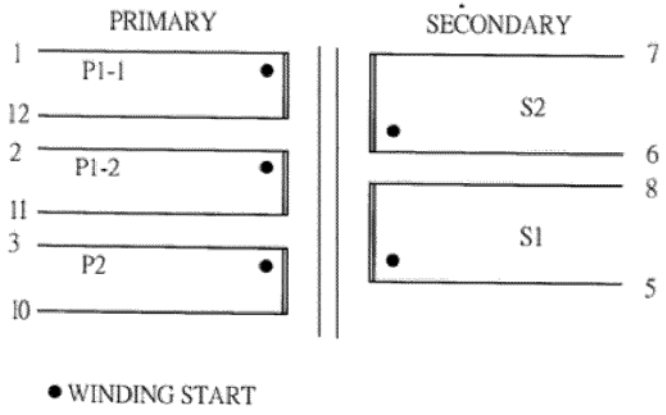
REMARKS: 1. PIN 4,9 CUT OFF.
2. LABEL ON TOP SIDE.
3. FIXING TAPE FOR CORE: 1 mil, 2 Ts MIN.
4. LOT NO.: YY WW
WEEK
YEAR

Diagrams ID 4-04

ATC 碩哲科技股份有限公司
ISO9001 ACROPARTS TECHNOLOGY CO.,LTD.

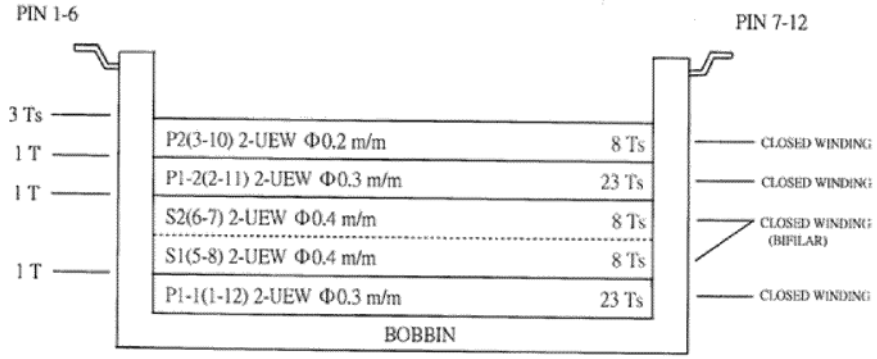
13W12V Series Specification

8 SCHEMATIC



8 WINDING CONSTRUCTION

INSULATION TAPE: 1 mil x 9.0 m/m



Manuals ID 6-01

Manuals ID 6-01

English

Warning Before Installation

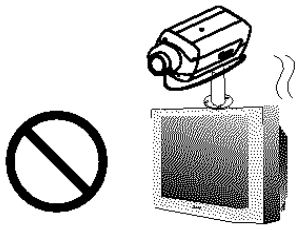
- **Power off the Network Camera as soon as smoke or unusual odors are detected.**

Contact your distributor in the event of occurrence.

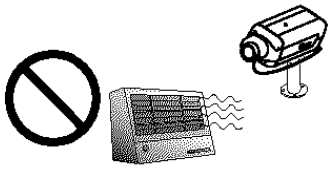
- **Keep the Network Camera away from water. If the Network Camera becomes wet, power off immediately.**

Contact your distributor in the event of occurrence.

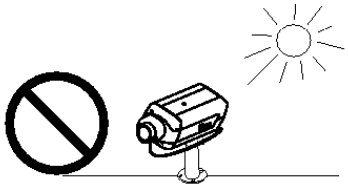
- **Do not place the Network Camera around heat sources, such as a television or oven.**



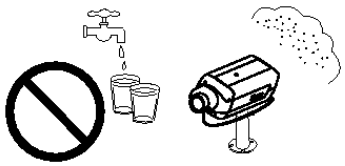
- **Refer to your user's manual for the operating temperature.**



- **Keep the Network Camera away from direct sunlight.**



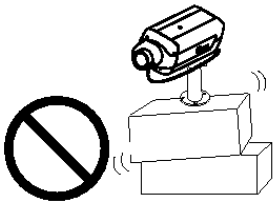
- **Do not place the Network Camera in high humidity environments.**



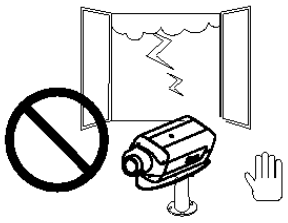
EN - 1

Manuals ID 6-01

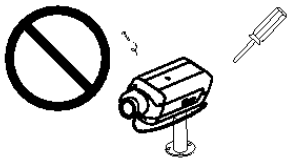
- **Do not place the Network Camera on unsteady surfaces.**



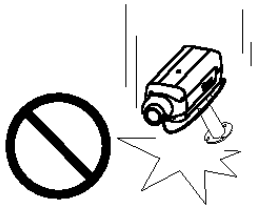
- **Do not touch the Network Camera during a lightning storm.**



- **Do not disassemble the Network Camera.**



- **Do not drop the Network Camera.**



- **Do not insert sharp or tiny objects into the Network Camera.**

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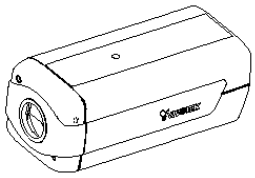
Manuals ID 6-01

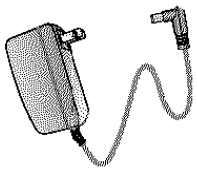
English

1 Package Contents

- IP8162/62P

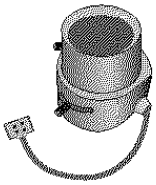


- Power Adapter



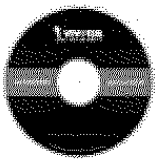
- Camera Stand

- CS-mount Lens

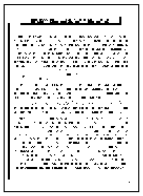


- Quick Installation Guide

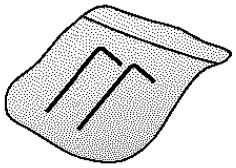
- Software CD



- Warranty Card



- L-type Hex Key Wrench



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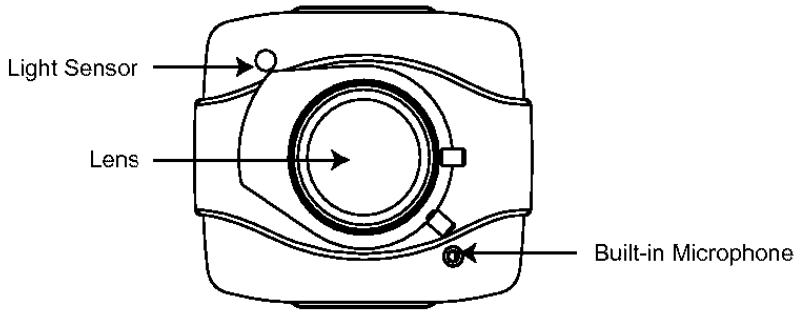
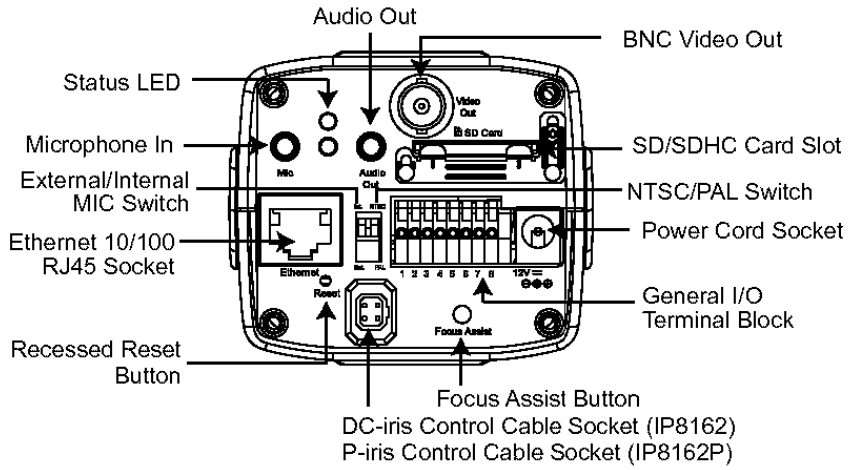
2 Physical Description

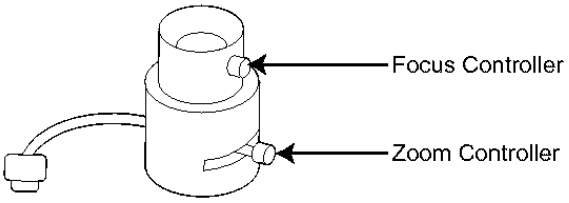
Front Panel



Back Panel



Lens



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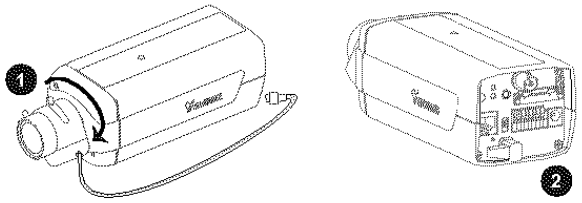
Manuals ID 6-01

English

3 Mounting the Lens to the Camera

1. Mount the lens by turning it clockwise onto the camera mount until it stops. If necessary, turn the lens counterclockwise slowly until it gets the best attitude.
2. Connect the DC-iris control cable to the socket. (IP8162)
   Connect the P-iris control cable to the socket. (IP8162P)



For further setup, please refer to the lens' instruction manual inside the lens package.

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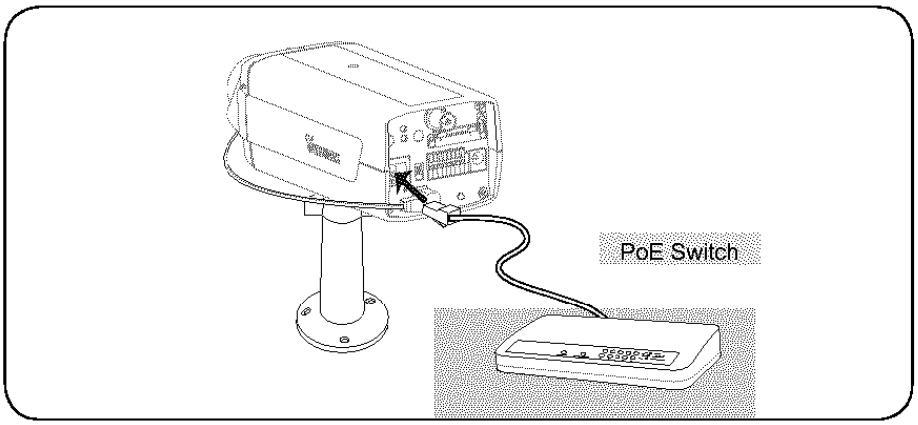
Manuals ID 6-01

Power over Ethernet (PoE)

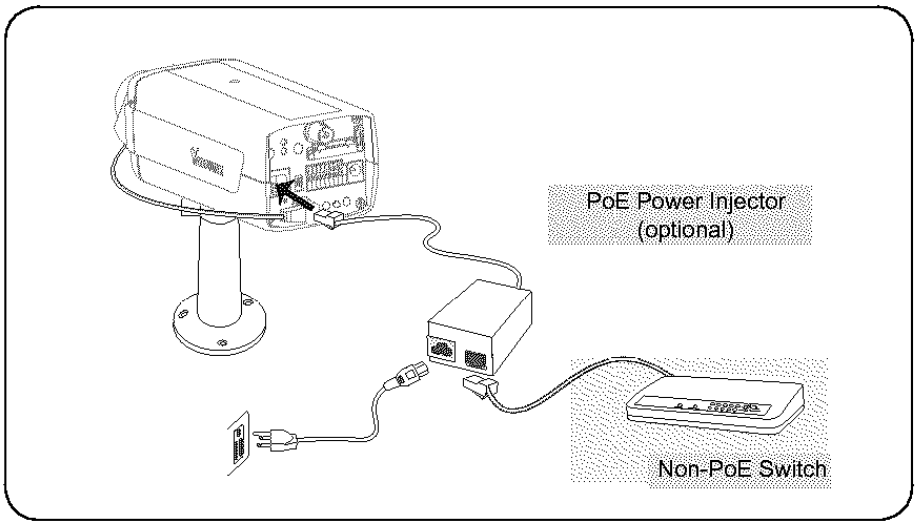
When using a PoE-enabled switch

The Network Camera is PoE-compliant, allowing transmission of power and data via a single Ethernet cable. Follow the below illustration to connect the Network Camera to a PoE-enabled switch via Ethernet cable.



When using a non-PoE switch

Use a PoE power injector (optional) to connect between the Network Camera and a non-PoE switch.



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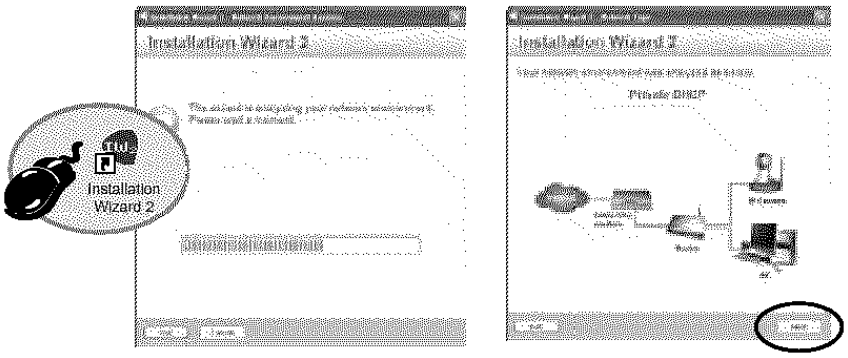
Manuals ID 6-01

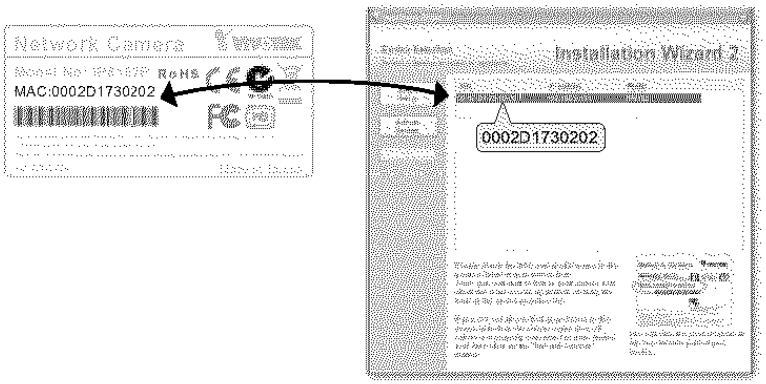
English

5 Assigning an IP Address

1. Install "Installation Wizard 2" from the Software Utility directory on the software CD.
2. The program will conduct an analysis of your network environment. After your network is analyzed, please click on the "Next" button to continue the program.



3. The program will search for VIVOTEK Video Receivers, Video Servers, and Network Cameras on the same LAN.
4. After searching, the main installer window will pop up. Click on the MAC that matches the one labeled on the bottom of your device to connect to the Network Camera via Internet Explorer.



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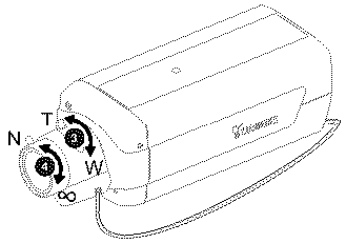
Manuals ID 6-01

6 Ready to Use

1. Access the Network Camera from the LAN.
2. Retrieve live video through a web browser or recording software.

3. Unscrew the zoom controller to adjust the zoom factor. Upon completion, tighten the zoom controller.
4. Unscrew the focus controller to adjust the focus range. Upon completion, tighten the focus controller.



For further setup, please refer to the user's manual on the software CD.

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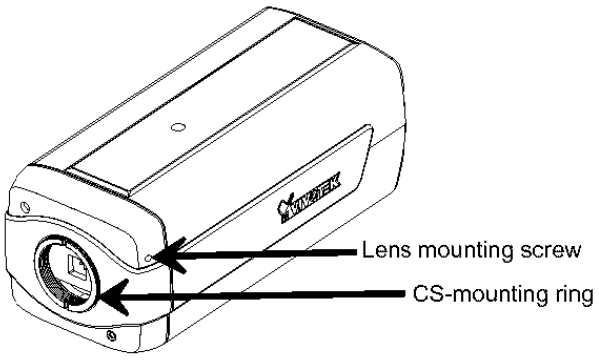
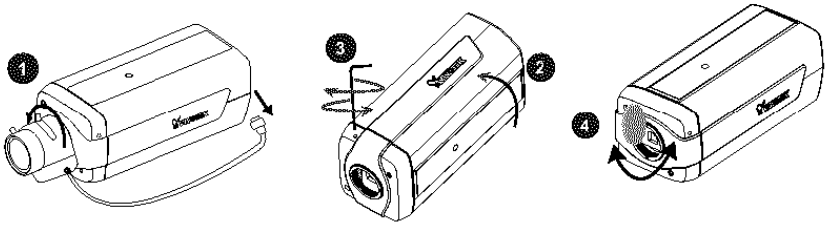
Manuals ID 6-01

English

7 Fine-tune the CS-Mount

1. Detach the CS-mount lens from the camera body.
2. Turn the right side of the camera body up.
3. Use the supplied L-type hex key wrench to loosen the lens mounting screw; the CS-mount ring becomes rotatable.
4. Use a coin to turn the CS-mount ring; fine-tune the distance between the sensor and the lens.
5. When finished, tighten the lens mounting screw to fix the CS-mount ring.
6. Attach the CS-mount lens back to the camera body.





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