APPLICATION FOR LOW VOLTAGE DIRECTIVE

On Behalf of

NINGBO TAISUO TECHNOLOGY CO., LTD.

Digital Controller

Model: **CH102, CH402, CH702, CH902,**
CH808, CH3000, CH4000, CH5000,
CH6000, CH7000, CH8000, CH9000

Prepared For : **Ningbo Taisuo Technology Co., Ltd.**

#2, East Yuzhou Road, Yuyao City, Zhejiang, China

Prepared By : **Shenzhen Most Electronic Co., Ltd.**

4-21A-B Time City Building, Chuangye Road, Nanshan, Shenzhen, China

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Date of Test	**:**	**May 19-26, 2006**
Date of Report	**:**	**May 26-31, 2006**
Report Number	**:**	**MT-S0605248**

LVD Report EN60730-1 + EN60730-2-9 Automatic electrical controls for household and similar– Part 1: General requirements Part 2-9: particular requirements for Temperature sensing controls	
Testing laboratory …… :	Most Compliance laboratory Limited
Address …… :	Suite 508, 32/38 Leman Street, London E1 8EW, UK
Testing location …… :	Shenzhen Most Electronic Co., Ltd. 21A-B 4th Time City Building, Chuangye Road, Nanshan, Shenzhen, Guangdong, China
Applicant ……:	Ningbo Taisuo Technology Co., Ltd.
Address …… :	#2, East Yuzhou Road, Yuyao City, Zhejiang, China
Standard …… :	EN60730-1:2000+A12:2004+EN60730-2-9:2002
Test Result …… :	Compliance with EN60730-1:2000+A12:2004+ EN60730-2-9:2002
Procedure deviation …… :	N.A.
Non-standard test method …… :	N.A.
Type of test object …… :	Digital Controller
Trademark …… :	N.A.
Model/type reference …… :	CH902
Manufacturer …… :	Ningbo Taisuo Technology Co., Ltd.
Address …… :	#2, East Yuzhou Road, Yuyao City, Zhejiang, China
Test item particulars :	
Rating …… :	AC100-240V~, 50/60Hz, 10VA(max), ta=50℃
Test range …… :	0-400℃

General remarks

This 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(s) tested.

"(see appended table)" refers to a table appended to the report.

“(see remark #)” refers to a remark appended to the report.

“(see Annex #) refers to an annex appended to the report.

Throughout this report a comma (point) is used as the decimal separator.

Remark :

1. CH102, CH402, CH702, CH808, CH3000, CH4000, CH5000, CH6000, CH7000, CH8000, CH9000 are similar as CH902 except model name and style.
2. CH902 is representative model for all tests.
3. All tests were conducted on CH902.

Copy of marking plate:

(See appendix 6)

Possible test case verdicts :	
test case does not apply to the test object …… :	N (.A.)
test object does meet the requirement …….. :	P(ass)
test object does not meet the requirement …… :	F(ail)

Name and address of the testing laboratory : **Most Compliance laboratory Limited**
Suite 508, 32/38 Leman Street, London E1 8EW
UK

Reported by :

Signature — 2006-5-31 Date

Michael Wang / Project Engineer
Name and Title

Approved by :

Signature — 2006-5-31 Date

Yvette Zhou / Manager
Name and Title

EN 60730-1& EN 60730-2-9			
Clause	**Requirement - Test**	**Result - Remark**	**Verdict**
6.	CLASSIFICATION		P
6.1	According to nature of supply		P
6.1.1	Control for a.c. only		P
6.1.2	Control for d.c. only		N
6.1.3	Control for a.c. and d.c.		N
6.1.4	Control for specific supplies or multiple supplies		N
6.2	According to type of load to be controlled by each circuit of the control		P
6.2.1	Circuit for a substantially resistive load with a power factor not less than 0.95.		N
6.2.2	Circuit suitable for either a resistive load or for an inductive load with a power factor not less than 0.6 or a combination of both.		N
6.2.3	Circuit for declared specific load		P
6.2.4	Circuit for a current less than 20mA		N
6.2.5	Circuit for a.c. motor load whose characteristics are defined by the control manufacturer's declaration.		N
6.2.6	Circuit for pilot load		N
6.3	According to their purpose		P
6.3.1	- thermostat		P
6.3.2	- temperature limiter		N
6.3.3	- thermal cut-out		N
6.3.4	Void		-
6.3.5	- energy regulator		N
6.3.6	- timer		N
6.3.7	- time switch		P
6.3.8	- manual control		N
6.3.9	- sensing control		P
6.3.10	- electrically operated control		P
6.3.11	- motor protector		N
6.3.12	- thermal motor protector		N
6.3.13	- electrically operated mechanism		N
6.3.14	- protective control		P
6.3.15	- operating control		P

EN 60730-1& EN60730-2-9			
Clause	**Requirement - Test**	**Result - Remark**	**Verdict**
6.4	According to features of automatic action		P
6.4.1	- type 1 action		N
6.4.2	- type 2 action		P
6.4.3	Type 1 actions and Type 2 actions are further classified according to one or more of the following constructional or operational features:		P
6.4.3.101	- for sensing actions, no increase in the operating value as a result of any leakage from the sensing element (EN60730-2-9)		P
6.4.3.102	- an action which operates after a declared thermal cycling test (EN60730-2-9)		N
6.4.3.103	- an action which is initiated only after a push-and-turn or pull-and-turn actuation (EN60730-2-9)		N
6.4.3.104	- an action which is initiated only after a push-and-turn or pull-and-turn actuation (EN60730-2-9)		N
6.5	According to the degree of protection and control pollution degree		P
6.5.1	According to degrees of protection provided by enclosures against ingress of solid objects and dust	IP 20	P
6.5.2	According to degree of protection provided by enclosures against harmful ingress of water	IP 20	P
6.5.3	According to the pollution degree of degrees for which the control is declared.	Degree II	P
6.6	According to method of connection		P
6.6.1	Control with at least one terminal intended for the connection of fixed wiring		P
6.6.2	Control with at least one terminal intended for the connection of a flexible cord.		N
6.6.3	Control without any terminals intended for the connection of an external conductor		N
6.7	According to ambient temperature limits of the switch head		P

EN 60730-1& EN60730-2-9			
Clause	**Requirement - Test**	**Result - Remark**	**Verdict**
6.7.1	Control with a switch head for use in an ambient temperature between a minimum value 0℃, and a maximum value of 55℃.	0-50℃,	P
6.7.2	Control with a switch head intended to be used in an ambient temperature having a maximum value other than 55℃ but no less than 30℃, or a minimum value lower than 0℃.		N
6.7.101	Controls for use in or on cooking appliances (EN 60730-2-9)		N
6.7.102	Controls for use in or on ovens of the self-cleaning type (EN 60730-2-9)		N
6.7.103	Controls for use in or on food-handling appliances (EN 60730-2-9)		N
6.8	According to protection against electric shock		P
6.8.1	For an integrated control		P
6.8.2	For an incorporated control for use in:		N
6.8.2.1	Class 0 equipment		N
6.8.2.2	Class 0I equipment		N
6.8.2.3	Class I equipment		N
6.8.2.4	Class II equipment		N
6.8.2.5	Class III equipment		N
6.8.3	For an in-line cord control, a free standing control, or an independently mounted control:		N
6.8.3.1	Of class 0		N
6.8.3.2	Of class 0I		N
6.8.3.3	Of class I		N
6.8.3.4	Of class II		N
6.8.3.5	Of class III		N
6.9	According to circuit disconnection or interruption		P
6.9.1	Full-disconnection		P
6.9.2	Micro-disconnection		N
6.9.3	Micro-interruption		N
6.9.4	All-pole disconnection		N

EN 60730-1& EN60730-2-9			
Clause	**Requirement - Test**	**Result - Remark**	**Verdict**
6.10	According to number of cycles of actuation of each manual action		N
6.10.1	100000 cycles		N
6.10.2	30000 cycles		N
6.10.3	10000 cycles		N
6.10.4	6000 cycles		N
6.10.5	3000 cycles		N
6.10.6	300 cycles		N
6.10.7	30 cycles		N
6.11	According to number of automatic cycles of each automatic action	10 000 times	P
6.12	According to temperature limits of the mounting surface of control		N
6.12.1	Control suitable for mounting on a surface which is not more than 20K above the ambient temperature		N
6.12.2	Control suitable for mounting on a surface which is more than 20K above the ambient temperature		N
6.13	According to value of proof tracking index for the insulation material used		N
6.13.1	Material of material group IIIb with a PTI of 100 and up to but excluding 175;		N
6.13.2	Material of material group IIIa with a PTI of 175 and up to but excluding 400 ;		N
6.13.3	Material of material group II with a PTI of 400 and up to but excluding 600;		N
6.13.4	Material of material group I with a PTI of 600 and over		N
6.14	According to period of electrical stress across insulating parts supporting live parts and between live parts and earthed metal	Long period	P
6.15	According to construction		P
6.15.1	Integrated control		P
6.15.2	Incorporated control		N
6.15.3	In-line cord control		N

EN 60730-1& EN60730-2-9			
Clause	**Requirement - Test**	**Result - Remark**	**Verdict**
6.15.3.1	Free-standing control		N
6.15.4	Independently mounted control for		P
6.15.4.1	Surface mounting		N
6.15.4.2	Flush mounting		N
6.15.4.3	Panel mounting		P
6.15.101	Controls having parts containing liquid metal. (EN 60730-2-9)		N
6.16	According to ageing requirements of the equipment in which, or with which, the control is intended to be used		N
6.16.1	60000h		N
6.16.2	30000h		N
6.16.3	10000h		N
6.16.4	3000h		N
6.16.5	300h		N
6.16.6	15h		N
6.17	According to use of the thermistor		N
6.18	According to software class		N
7.	INFORMATION		P
7.1	General requirements		P
7.2	Methods of providing information	Marking and document	P
7.2.1	Information shall be provided using one or more methods	See: Artwork of Marking Label	P
8.	PROTECTION AGAINST ELECTRIC SHOCK		P
8.1	General requirements		P
8.1.1	Adequate protection against accidental contact with live parts in any position of use when the switch is mounted and operated as in normal use.	It is not be possible with either the standard test finger or the test pin to touch are live parts.	P
8.1.2	For class II controls and controls for class II equipment, accidental contact with metal parts separated from hazardous live parts by basic insulation.		N

EN 60730-1& EN60730-2-9			
Clause	**Requirement - Test**	**Result - Remark**	**Verdict**
8.1.3	The insulating properties of lacquer, enamel, paper, cotton, oxide film on metal parts, beads and sealing compounds shall not be relied upon to give the required protection against accidental contact with hazardous live parts.	No application	N
8.1.4	Class II controls are connected in normal use to the gas supply mains or to the water supply mains, any metal parts conductively connected to the gas pipes or in electrical contact with the water system shall be separated from hazardous live parts by double insulation or reinforced insulation		N
8.1.5	Permanently connected to fixed wiring shall be so designed that the required degree of protection against electric shock is not impaired by the installation of the control.		N
8.1.6	For integrated and incorporated controls, the test applied to accessible control		N
8.1.7	For in-line cord and free-standing controls, the tests is only applied to accessible parts when it is mounted in any position in accordance with the manufacturer's declarations		N
8.1.8	For independently mounted controls, the test is made when the control is mounted as in normal use, fitted with cable of the smallest or of the largest nominal cross-sectional area		N
8.1.9	Inspection checked	It shall not be possible, with either the standard test finger or the test pin, to touch hazardous live parts.	P
8.1.10	See annex H		N
8.1.11	Between class III circuits and circuits connected to the mains or earth, insulation external to the safety isolating transformer shall comply with all requirements for class II insulation		N
8.2	Actuating members and actuating means		N

EN 60730-1& EN60730-2-9			
Clause	**Requirement - Test**	**Result - Remark**	**Verdict**
8.2.1	An actuating member shall not be live		N
8.2.2	An actuating member is insulated and not accessible when it is removed.		N
8.2.3	Actuating members and handles held in normal use is adequately covered by insulating material		N
8.3	Capacitors		N
8.4	Covers and uninsulated live or hazardous parts	The cover fixing screws are not accessible	P
9.	PROVISION FOR PROTECTIVE EARTHING		N
9.1	General requirements	No earthing	P
9.2	Class II and class III controls shall have no provision for protective earthing		P
9.3	Adequacy of earth connections		N
9.3.1	General requirements		N
9.3.2	Fixed wiring and methods X and M		N
9.3.3	External conductors		N
9.3.4	Size of accessible earthing terminals		N
9.3.5	Size of non-accessible earthing terminals		N
9.3.6	Locking of earthing terminals		N
9.4	Corrosion resistance		N
9.4.1	Materials		N
9.4.2	Frames or enclosures of aluminum	.	N
9.5	Other requirements		N
9.5.1	Detachable parts		N
9.5.2	Incorporated control		N
10.	TERMINALS AND TERMINATIONS		P
10.1	Terminals and terminations for external copper conductors		P

EN 60730-1& EN60730-2-9			
Clause	**Requirement - Test**	**Result - Remark**	**Verdict**
10.1.1	Terminals for fixed wiring and for non-detachable cords using attachment methods X and M, connection is made by means of screws, nuts or equally effective devices or methods	By means of screws	P
10.1.1	Terminals or terminations for non-detachable cords using attachment methods Y and Z shall satisfy the appropriate requirements and may require the use of special purpose tools for connection or disconnection		N
10.1.2	Screws and nuts shall have a metric ISO thread or a thread of equivalent effectiveness.		P
10.1.3	Soldered, welded, crimped or similar terminations		N
	Soldered, welded, crimped or similar terminations shall not be used for the connection of non-detachable cords using attachment methods X and M.		N
10.1.4	Terminals for fixed wiring or non-detachable cords using attachment methods X or M shall allow at least the connection of conductors having nominal cross-sectional areas		P
10.1.5	Terminals for fixed wiring or non-detachable cords using attachment methods X or M shall be so fixed that he terminal does not work loose		P
10.1.6	Terminals for fixed wiring or non-detachable cords using attachment methods X or M, clamp the conductor between metal surfaces with sufficient clamp the conductor between metal surfaces with sufficient.		P
10.1.7	Terminals for fixed wiring and non-detachable cords using attachment method X shall not require special preparation of the conductor in order to effect correct connection.		N

EN 60730-1& EN60730-2-9			
Clause	**Requirement - Test**	**Result - Remark**	**Verdict**
10.1.8	Terminals for fixed wiring and non-detachable cords using attachment methods X or M, neither the conductor nor a wire of a stranded conductor can slip out		P
10.1.9	Terminals shall be so designed that they clamp the conductor reliably	No clamp	N
10.1.10	Terminals do not attain excessive temperature in normal use		P
10.1.11	Each core contained within any fixed wiring sheath or flexible cord sheath can be terminated in reasonable proximity to the other cores within the same sheath.		P
10.1.12	Terminals for non-detachable cords using attachment methods X or M, there is no risk of accidental contact between live parts and accessible metal parts		P
10.1.13	Circuit continuity is not maintained by pressure transmitted through insulating material other than ceramic, or other insulating material with characteristics no less suitable.		N
10.1.14	Screws and threaded parts of terminals shall be of metal		P
10.1.15	Terminals of the pillar type and the mantle type allow an adequate length of conductor to be introduced into, and pass beyond the edge of the screw, to ensure that the conductor does not fall out.		N
10.1.16	Flying leads (pig tails)		N
10.2	Terminals and terminations for internal conductors	No internal conductors	N
11.	CONSTRUCTION REQUIREMENTS		P
11.1	Materials		P

EN 60730-1& EN60730-2-9			
Clause	**Requirement - Test**	**Result - Remark**	**Verdict**
11.1.1	Insulating materials – Impregnated	Wood, cotton, silk, ordinary paper and similar fibrous or hygroscopic material are not be used as insulation.	P
11.1.2	Current-carrying parts		P
11.1.3	Non-detachable cords		N
11.1.3.1	Non-detachable cords of class I controls shall have a green/yellow conductor insulation		N
11.1.3.2	Conductor insulation identified by the color combination green/yellow shall not be connected to terminals or terminations other than earthing terminals or terminations.	Not any earthing	N
11.1.101	Parts containing liquid metal (EN 60730-2-9)		N
11.2	Protection against electric shock		P
11.2.1	Double insulation		P
11.2.1.1	If the basic and the supplementary insulation cannot be tested separately, or if satisfaction with regard to the properties of both insulations cannot be obtained in another way, the insulation is regarded as reinforced insulation.		N
11.2.2	Infringement of double or reinforced insulation		P
11.2.3	Integrated conductors		N
11.2.4	Flexible cord sheaths		N
11.2.5	See annex H		N
11.3	Actuation and operation		P
11.3.1	Full disconnection		P
11.3.2	Micro-disconnection		N
11.3.3	Reset buttons		N
11.3.4	Setting by the manufacturer		P
11.3.5	Contacts – General		N
11.3.6	Contacts for full-disconnection and micro-disconnection		P
11.3.7	The requirements of 11.3.5 and 11.3.6 shall not apply to contacts shows they cannot be operated on-load or are not intended to be operated on-load, nor to contacts which do not arc under conditions of normal use.		P
11.3.8	Contacts rest position		N
11.3.9	Pull-cord actuated control		N

EN 60730-1& EN60730-2-9			
Clause	**Requirement - Test**	**Result - Remark**	**Verdict**
11.4	Actions		P
11.4.1	Combined actions		N
11.4.2	Setting by the manufacturer		P
11.4.3	Type 2 action		P
11.4.3.101	Capacitors shall not be connected across the contacts of a thermal cut-out. (EN 60730-2-9)		N
11.4.3.102	Constructions requiring a soldering operation to reset thermal cut-outs are not permitted. (EN 60730-2-9)		P
11.4.4	Type 1.A or 2.A action		N
11.4.5	Type 1.B or 2.B action		N
11.4.6	Type 1.C or 2.C action		N
11.4.7	Type 1.D or 2.D action		N
11.4.8	Type 1.E or 2.E action		N
11.4.9	Type 1.F or 2.F action		N
11.4.10	Type 1.G or 2.G action		N
11.4.11	Type 1.H or 2.H action		N
11.4.12	Type 1.J or 2.J action		N
11.4.13	Type 1.K or 2.K action		N
11.4.13.101	In the event of a break in the sensing element, the declared disconnection or interruption is provided before the sum of the declared operating value and drift is exceeded. (EN60730-2-9)		N
11.4.13.102	Type 2.K action may also be achieved by compliance with a), b) or c). (EN60730-2-9)		-
	a) Two sensing elements operating independently from each other and actuating one switched head.		N
	b) Bi-metallic sensing elements		N
	c) The bulb and capillary of a temperature sensing control which is actuated by a change in the pressure of a fluid confined in the bulb and capillary	A charge pellicle as the sensing elements	N
11.4.14	Type 1.L or 2.L action		N
11.4.15	Type 1.M or 2.M action		N
11.4.16	See annex H	No electronic control	N
11.4.101	Type 2.N action (EN 60730-2-9)		P
	In the event of a leak in the sensing element, or in any other part between the sensing element and the switch head, the declared disconnection or interruption is provided before the sum of the declared operating value and drift is exceeded.		P
11.4.102	Type 2.P (EN 60730-2-9)		N
11.4.103	Bi-metallic single-operation device (EN 60730-2-9)		N

EN 60730-1& EN60730-2-9			
Clause	**Requirement - Test**	**Result - Remark**	**Verdict**
11.4.104	Type 1.X or 2.X (EN 60730-2-9)		N
11.4.105	Type 1.Z or 2.Z (EN 60730-2-9)		N
11.5	Openings in enclosures	No opening	N
11.6	Mounting of controls		P
11.6.1	The methods of mounting in accordance with the manufacturer's declaration do not adversely affect compliance with this standard.		P
11.6.2	Control cannot rotate or be otherwise displaced, and cannot be removed from an equipment without the aid of a tool		P
11.6.3	Mounting of independently mounted controls		N
11.6.3.1	Independently mounted controls other than those declared for panel mounting shall either:		-
	– fit a standard box as declared;		N
	– be supplied with a conduit box if a special conduit box is required; or		N
	– be suitable for surface mounting on a plane surface.		N
11.6.3.2	A special conduit box is required		N
11.6.3.3	Independently mounted controls for surface mounting used with buried installation not using an outlet box		N
11.6.3.4	Independently mounted controls for surface mounting used with exposed wiring shall be provided with cable or conduit entries, knock-outs, or glands		N
11.6.3.5	Independently mounted controls for surface mounting or the sub-bases for such controls, shall be constructed in such a manner that the terminals for external conductors are accessible		N
11.6.3.6	Controls intended for mounting on an outlet box or similar enclosure shall have wiring terminals, other live parts and sharp-edged metal parts, earthed or not, located or protected		N
11.6.3.7	Back wiring terminals shall be recessed or be protected by lose-fitting barriers or insulating materials		N
11.7	Attachment of cords		N
11.7.1	Flexing		N
11.7.1.1	The flexible cords of in-line cord and free standing controls shall be capable of withstanding the flexing likely to occur in normal use		N
11.7.2	Cord anchorages		N

EN 60730-1& EN60730-2-9			
Clause	**Requirement - Test**	**Result - Remark**	**Verdict**
11.8	Size of cords – non-detachable	Detachable wire	N
11.9	Inlet openings		N
11.10	Equipment inlets and socket-outlets		N
11.11	Requirements during mounting, maintenance and servicing		P
11.11.1	Covers and their fixing		P
11.11.1.1	For other than integrated controls, user maintenance or servicing of the control, the removal of a cover or cover plate shall not affect the setting of the control if this might impair compliance with this standard.		N
11.11.1.2	The fixing of covers shall be such that they cannot be displaced.		P
11.11.1.3	Covers of enclosures		P
11.11.1.4	Glass covering an opening		N
11.11.1.5	Non-detachable parts		N
11.11.1.6	A cove shall not be released when a squeezing force of up to 45 N combined with up to 15 N for the pull test is applied at any two points	Cover can not be removed with one hand.	N
11.11.2	Cover fixing means	Screws	P
11.11.3	Actuating member		N
11.11.3.1	A control shall not be damaged when its actuating member is mounted or removed in the intended manner.		N
11.11.3.2	Actuating member shall not be removable without the use of a tool		N
11.11.3.3	Actuating member shall not be possible to fix the actuating member in an incorrect position.		N
11.11.4	Parts forming supplementary or reinforced insulation		N
11.11.5	Sleeving as supplementary insulation		N
11.11.6	Pull-cords		N
11.11.7	Insulating linings		N
11.12	Controls using software		N
11.13	Protective controls and components of protective control systems		N
11.101	Time factor		N
12.	MOISTURE AND DUST RESISTANCE		P
12.1	Protection against ingress of water and dust		P

EN 60730-1& EN60730-2-9			
Clause	**Requirement - Test**	**Result - Remark**	**Verdict**
12.1.1	Controls shall provide the degree of protection against ingress of water and dust appropriate to their IP classification when mounted and used in the declared manner.	IP 20	P
12.1.2	After the appropriate test the control shall withstand the electric strength test.		P
12.1.3	Controls are allowed to stand in normal test room atmosphere for 24 h before being subjected to the appropriate test.		P
12.1.4	Controls with a non-detachable cord using attachment method X are fitted with the appropriate conductors with the smallest cross-sectional area		N
12.1.5	Detachable parts are removed and subjected to the tests with the main part.	No detachable part except wire	N
12.1.6	Sealing rings of glands and other sealing means are aged in an atmosphere having the composition and pressure of the ambient air		N
12.2	Protection against humid conditions		P
12.2.1	All controls shall withstand humid conditions which may occur in normal use.		P
12.2.2	Humidity treatment		P
12.2.3	For in-line cord, free-standing, independently mounted controls, the test is conducted immediately after the humidity treatment.		N
12.2.4	The control shall show no damage so as to impair compliance with this standard.		P
12.2.5	Cable inlet openings, if any, and drain holes are left open. If a drain hole is provided for an IPX7 control, it is opened.		N
12.2.6	Detachable parts are removed and subjected, if necessary, to the humidity treatment with the main part.		N
12.2.7	Before being placed in the humidity cabinet, the sample is brought to a temperature between t and (t + 4) °C.	2 days for IP 20 controls	P
12.2.8	The humidity treatment is carried out in a humidity cabinet.	Humidity: 93% Temperature: 25°C	P
12.2.9	After this treatment the tests of clause 13 are made either in the humidity cabinet.		P
12.3	For in-line cord and free-standing controls, one sample is subjected to the test		P

EN 60730-1& EN60730-2-9			
Clause	**Requirement - Test**	**Result - Remark**	**Verdict**
12.3.1	The control is connected to a supply voltage equal to 1,06 times the rated voltage.	1.06x240=254.4	P
12.3.2	The leakage current is measured between parts as indicated.	No damage	P
12.3.3	Measuring circuits for controls	Using figures 25 in the standard	P
12.3.4	During measurement all control circuits shall be closed.		P
12.3.5	After the temperature of the control has stabilized, the maximum leakage current is not exceed the limited values.		P
12.101.1	Refrigeration controls (EN 60730-2-9)		N
13.	ELECTRIC STRENGTH AND INSULATION RESISTANCE		P
13.1	Insulation resistance	The insulation resistance is adequate.	P
13.1.1	Compliance is checked by the test.	Not exceed the limited values.	P
13.1.2	Measuring reinforced or supplementary insulation to other than metal parts, each appropriate surface of the insulation is covered with a metal foil to provide an electrode for the test.		P
13.1.3	The insulation resistance is measured with a d.c. voltage of approximately 500 V applied, the measurement being made 1 min after application of the voltage.		P
13.1.4	Measure value of the insulation resistance	> 10 M?	P
13.2	Electric strength		P
13.2.1	Measurement value	Basic insulation: 1450V Reinforced insulation: 2900 Not any damage after testing.	P
13.2.2	Measuring reinforced or supplementary insulation to other than metal parts, each appropriate surface of the insulation is covered with a metal foil to provide an electrode for the test.		P
13.2.3	The insulation is subjected to a voltage of substantially sine-wave form, having frequency of 50 Hz or 60 Hz.	For 1 min.	P

EN 60730-1& EN60730-2-9			
Clause	**Requirement - Test**	**Result - Remark**	**Verdict**
13.2.4	Initially not more than half the prescribed voltage is applied, then it is raised rapidly to the full value.	No flashover or breakdown occurred.	P
13.3	For in-line cord and free-standing controls, the sample goes on other test.		P
13.3.1	A test voltage, d.c. for controls for d.c. only and a.c. for all other controls, is applied between any live part and	a.c controls	P
	– accessible metal parts;		N
	– metal foil with an area not exceeding 20 cm × 10 cm in contact with accessible surfaces of insulating material, connected together.	Enclosure	P
13.3.2	Test voltage	1.06x240=254.4	P
13.3.3	The leakage current is measured within 5 s after the application of the test voltage.		P
13.3.4	The maximum leakage current to accessible metal parts and metal foil	0.01mA	P
14.	HEATING		P
14.1	Controls and their supporting surfaces shall not attain excessive temperatures in normal use.	The temperatures are not exceed the limited values.	P
14.2	Terminals and terminations which are intended for the connection of external conductors shall be fitted with conductors of the intermediate cross-sectional area appropriate to the type of conductor and rating	0.75mm^2	P
14.2.1	Attachment methods M, Y or Z are used then the cord declared or supplied shall be used for the test.	Methods X	N
14.2.2	A terminal is suitable for both flexible cords and for fixed conductors, then the appropriate flexible cord is used.		N
14.2.3	Terminals not intended for the connection of external conductors shall be fitted with conductors of the minimum cross-sectional area		N
14.3	In-line cord controls are stood or rested on a dull black painted plywood surface.		N

EN 60730-1& EN60730-2-9			
Clause	**Requirement - Test**	**Result - Remark**	**Verdict**
14.4	Controls shall be connected to a supply having the most unfavourable voltage between 0,94 VR and 1,06 VR.	0.94x100V=94.0V 1.06x240V=254.4V	P
14.4.1	Circuits and contacts not intended for external loads shall be specified by the manufacturer.		P
14.4.2	Actuating members are placed in the most unfavourable position.		P
14.4.3	Contacts required to be closed initially for the purpose of this test are closed at the rated current and the rated voltage of the circuit		P
14.4.4	If the control starts to operate during this test, the control is reset so that the contacts will remain closed.		P
14.5	Controls are tested in an appropriate heating and/or refrigerating apparatus.		N
14.6	The temperatures specified for the switch head, the mounting surfaces and sensing element shall be attained in approximately 1 h.		P
14.6.1	The electrical and thermal conditions are maintained for 4 h, or for 1 h after steady state		N
14.6.2	For controls designed for short-time or intermittent operation the resting time(s) shall be included in the 4 h.		P
14.7	The temperature of the medium in which the switch head is located, and the value shall be measured as near as possible to the center of the space occupied.	As following is measurement value: Terminals and terminations for external conductors: 46K Setting button : 17K Inner PCB : 21K Enclosure: 15K	P
15.	MANUFACTURING DEVIATION AND DRIFT		N

EN 60730-1& EN60730-2-9			
Clause	**Requirement - Test**	**Result - Remark**	**Verdict**
15.1	Those parts of controls providing a Type 2 action shall have adequate consistency of manufacture with regard to their declared operating value, operating time, or operating sequence		N
	The values of manufacturing deviation and drift shall be according to annex AA unless otherwise declared by the manufacturer. (EN60730-2-9)		N
15.2	Compliance is checked by the appropriate tests of this clause.		N
15.3	For those controls which are completely or partially destroyed during their normal operation, the tests of the appropriate subclauses of clause 17 are deemed to be sufficient.		N
15.4	For those controls which are dependent on the method of mounting on		N
	Alternatively, the declared manufacturing deviation and drift may be expressed separately as a tolerance value to the declared operating value.(EN60730-2-9)		N
15.5	The consistency shall be determined		N
15.6	For those controls which are not dependent for their operation on the method of mounting on		N
	Alternatively, the manufacturing deviation shall be according to annex AA. (EN60730-2-9)		N
16.	ENVIRONMENTAL STRESS		N
16.1	Controls which are sensitive to the environmental stresses of temperature shall withstand the level of the appropriate stress likely to occur in transportation and storage.		N
16.2	Environmental stress of temperature		N
16.2.1	The effect of temperature is tested as follows:		N
	– the entire control shall be maintained at a temperature of (–10 ± 2) ° C for a period of 24 h.		N

EN 60730-1& EN60730-2-9			
Clause	**Requirement - Test**	**Result - Remark**	**Verdict**
	– the entire control shall then be maintained at a temperature of (60 ± 5) °C for a period of 4 h.		N
16.2.2	The control is not energized during either test.		N
16.2.3	After each test a control with an actuating member or actuating means shall be capable of being actuated to provide correctly the class of circuit disconnection declared.		N
16.2.4	For controls with Type 2 actions		N
17.	ENDURANCE		P
17.1	General requirement		-
17.1.1	Controls shall withstand the mechanical, electrical and thermal stresses that occur in normal use.		P
17.1.2	Controls with Type 2 actions shall operate such that any operating value, operating time or operating sequence does not change by an amount greater than the declared drift.		P
17.1.3	Test sequence and conditions		P
17.2	Electrical conditions for the tests		P
17.2.1	Each circuit of the control shall be loaded according to the ratings declared by the manufacturer.		P
17.2.2	In all countries which use an overvoltage test	Adding the voltage from rated voltage to 1.15VR	P
17.2.3	The overload tests are performed on a single pole or throw at a time, with all other poles or throws at normal load.		P
17.2.4	There is an earthed neutral system, the enclosure shall be connected through a 3 A cartridge fuse to the protective conductor of the circuit,		N
17.2.5	For Type 1.G or 2.G actions, or other off-load actions, auxiliary switches are used to simulate the intended operation during the test.		N
17.3	Thermal conditions for the tests		P
17.4	Manual and mechanical conditions for the tests		P

EN 60730-1& EN60730-2-9			
Clause	**Requirement - Test**	**Result - Remark**	**Verdict**
17.5	Dielectric strength requirements		P
17.6	Ageing test		P
17.7	Overvoltage (or in some countries overload) test of automatic action at accelerated rate		P
17.8	Test of automatic action at accelerated rate		P
17.8.4.101	The number of automatic and manual cycles for independently mounted and in-line cord controls shall be as indicated in clause CC.1, unless a higher number is declared by the manufacturer. (EN60730-2-9)		P
17.9	Test of automatic action at slow rate		N
17.10	Overvoltage test of manual action at accelerated speed		P
17.11	Test of manual action at slow speed		P
17.12	Test of manual action at high speed		P
17.13	Test of manual action at accelerated speed		P
17.14	Evaluation of compliance		P
17.15	Bi-metallic SODs (EN60730-2-9)		N
17.16	Test for particular purpose controls		N
17.16.101	Thermostats (EN60730-2-9)01		N
17.16.102	Independently mounted room thermostats for operation above 50 V (EN60730-2-9)		N
17.16.103	Temperature limiters (EN60730-2-9)		N
17.16.104	Thermal cut-outs (EN60730-2-9)		N
17.16.105	A control has two or more electrical ratings (EN60730-2-9)		N
17.16.106	Evaluation of materials (EN60730-2-9)		P
17.16.107	Over-temperature test of sensing element (EN60730-2-9)	After test, the control comply with evaluation.	P
17.101	Type 2.P cycling test (EN60730-2-9)		N
18.	MECHANICAL STRENGTH		P
18.1	General requirements		P

EN 60730-1& EN60730-2-9			
Clause	**Requirement - Test**	**Result - Remark**	**Verdict**
18.1.1	Controls shall be so constructed as to withstand the mechanical stress that occurs in normal use.		P
18.1.2	Actuating members of class I and class II controls shall either have adequate mechanical strength or be such hat adequate protection against electric shock is maintained		N
18.1.3	Integrated controls and incorporated controls are not tested as in 18.2 as their impact resistance will be tested by the equipment standard.		N
18.1.5	After the appropriate tests the control shall show no damage to impair compliance with this standard.		P
18.2	Impact resistance		P
18.2.1	In-line cord, free-standing and independently mounted controls are checked by applying blows to the sample by means of the apparatus		N
18.2.2	All surfaces which are accessible when the control is mounted as in normal use are tested with the apparatus.		P
18.2.3	The control is held in contact with a vertical sheet of plywood 8 mm thick and 175 mm square without any metallic back plate.		P
18.2.4	Blows are applied to all accessible surfaces, including actuating members, at any angle, the test apparatus being calibrated to deliver an energy of (0,5 ± 0,04) Nm.		P
18.2.5	For all such surfaces three blows are applied to every point that is likely to be weak.		N
18.3	Void		-
18.4	Alternate compliance – Impact resistance	A plastic enclosure	N
18.5	Free-standing controls		N
18.6	In-line cord controls		N
18.7	Pull-cord actuated controls		N
18.8	Foot actuated controls		N
18.9	Actuating member and actuating means		P

EN 60730-1& EN60730-2-9			
Clause	**Requirement - Test**	**Result - Remark**	**Verdict**
18.101	Push-and-turn or pull-and-turn actuation (EN60730-2-9)		N
18.102	Parts containing liquid metal (EN60730-2-9)		N
19.	THREADED PART AND CONNECTIONS		P
19.1	Threaded parts moved during mounting or servicing		N
19.2	Current-carrying connections		P
19.2.1	Current-carrying connections which are not disturbed during mounting or servicing and the efficiency or security		P
19.2.2	Such current-carrying connections which are also subject to torsion in normal use, shall be locked against any movement.		N
19.2.3	Contact pressure is not transmitted through non-metallic material other than ceramic or other non-metallic material having characteristics no less suitable		P
19.2.4	Such current-carrying connections shall not make use of space threaded screws.		P
19.2.5	Such current-carrying connections may make use of thread cutting screws if these produce a full-form standard machine screw thread.		N
19.2.6	Such current-carrying connections shall have resistance to corrosion over the area of contact not inferior to that of brass.		P
20.	CREEPAGE DISTANCES, CLEARANCES AND DISTANCES THROUGH SOLID INSULATION		P
20.1	Clearances	Clearances are not be less than the limited values.	P
20.2	Creepage distances	Basic insulation are not less than those specified in table 20.3	P
20.3	Isolation solide		P

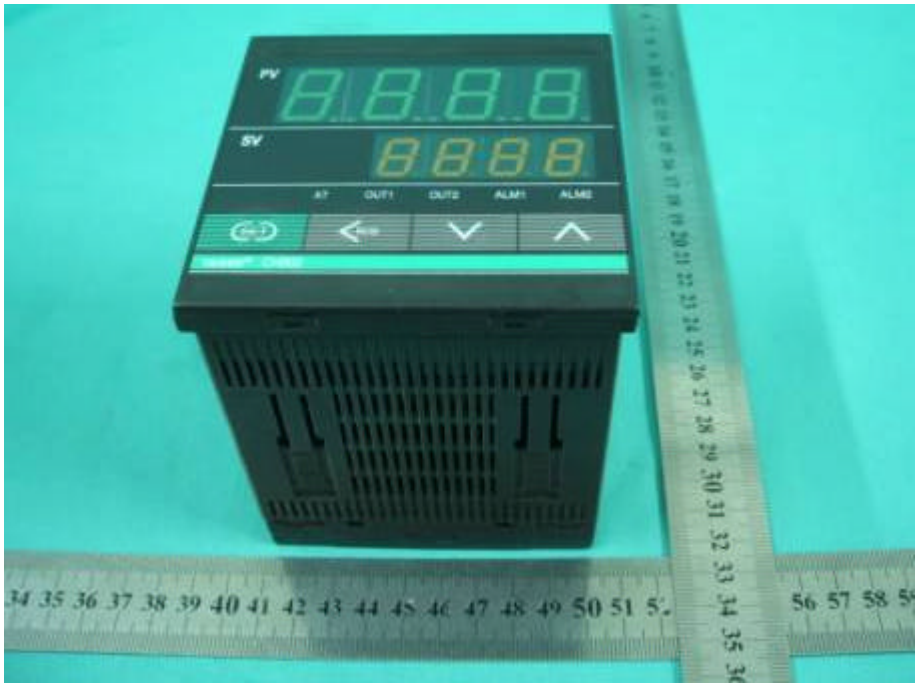
EN 60730-1& EN60730-2-9			
Clause	**Requirement - Test**	**Result - Remark**	**Verdict**
20.3.1	There is no dimensional requirement for the thickness of basic or operational insulation.		P
20.3.2	The distance through insulation for supplementary and reinforced insulation between metal parts shall not be less than 0,7 mm	Working voltage is up to 300V	N
21.	RESISTANCE TO HEAT, FIRE AND TRACKING		P
21.1	General requirements	All non-metallic parts of a control can be resistant to heat, fire and tracking.	P
21.2	Integrated, incorporated and in-line cord controls	Ball pressure test	P
21.2.1	For parts which are accessible when the control is mounted in its manner of intended use, and the deterioration becoming unsafe.		N
21.2.2	For parts which retain in position current-carrying parts other than electrical connections		P
21.2.3	For parts which maintain or retain in position electrical connections, the tests shall be as indicated for the declared category of the control		N
21.2.4	For all other parts		P
21.2.5	Ball pressure test 1		N
21.2.6	Ball pressure test 2	125 °C for controls	P
21.2.7	Resistance to tracking		P
21.3	Independently mounted controls		N
21.4	Controls employing a mercury-tube switch		N
22.	RESISTANCE TO CORROSION		P
22.1	Resistance to rusting		P
22.1.1	Ferrous parts, including covers and enclosures, the corrosion shall be protected against corrosion.	Copper and stainless steel are used	N
22.1.2	This requirement does not apply to temperature sensing elements		P
22.1.3	Compliance is checked by the following test:		P
22.1.4	The parts are subjected to a test of 14 days duration at 93 % to 97 % relative humidity at (40 ± 2) °C.		P

EN 60730-1& EN60730-2-9			
Clause	**Requirement - Test**	**Result - Remark**	**Verdict**
22.1.5	After the parts have been dried for 10 min in a heating cabinet at a temperature of (100 ± 5) °C, their surfaces shall show no corrosion		P
22.1.6	Traces of rust on sharp edges and a yellowish film removable by rubbing are ignored.		N
23.	ELECTROMAGNETIC COMPATIBILITY (EMC) REQUIREMENTS – EMISSION		P
23.1	Free standing and independently mounted controls	No free standing and independently mounted controls	N
23.1.1	Test conditions		N
23.1.2	Test procedure		N
23.101	Thermostats shall be so constructed that they do not generate radio interference for a time period exceeding 20 ms. (EN60730-2-9)		P
24.	COMPONENTS		N
24.1	Transformers intended to supply power to a safety extra-low voltage circuit (SELV)		N
24.2	Components other than those detailed in 24.1		P
25.	NORMAL OPERATION		P
	Output waveform of electronic controls	Sinusoidal	P
26.	ELECTROMAGNETIC COMPATIBILITY (EMC) REQUIREMENTS – IMMUNITY		P
26.1	Electronic controls shall be so constructed as to withstand the effects of mains-borne perturbations and electromagnetic phenomena which may occur in normal use.		P
26.2	For integrated and incorporated controls with Type 2 action	The control will not be exposed to a particular type of disturbance in its application;	P
26.3	A separate sample, as submitted, may be used for each test		P

EN 60730-1& EN60730-2-9			
Clause	**Requirement - Test**	**Result - Remark**	**Verdict**
26.4	Test of the influence of signal voltages in the power supply networks		P
26.5	Voltage dips and voltage interruptions in the power supply network	Tolerateing voltage dips and voltage interruptions	P
26.6	Test of influence of voltage unbalance	No three-phase equipment	N
26.7	Test of the influence of d.c. in a.c. networks		P
26.8	Surge immunity test	The control can tolerate voltage surges on the mains supply and relevant signal terminals.	P
26.9	Electrical fast transient/burst test	The control can tolerate fast transient bursts on the mains supply and on the signal lines.	P
26.10	Ring wave test		N
26.11	Electrostatic discharge test		P
26.12	Radio-frequency electromagnetic field immunity		P
26.13	Test of influence of supply frequency variations		P
26.14	Power frequency magnetic field immunity test		P
27.	ABNORMAL OPERATION		P
27.1	Electronic controls shall be assessed for the effects of failure or malfunction of circuit components.		P
27.2	Burnout test	No electro-magnets	N
	Controls incorporating electro-magnets shall withstand the effects of blocking of the control mechanism		N
27.3	Overvoltage and undervoltage test	No electro-magnet	N
27.4	Controls providing electronic disconnection (Type 1.Y or 2.Y) shall withstand the abnormal overvoltage conditions which may occur.		P
28.	GUIDANCE ON THE USE OF ELECTRONIC DISCONNECTION		N
28.1	Main features of solid-state switching devices		N
28.2	Application of solid-state switching devices		N

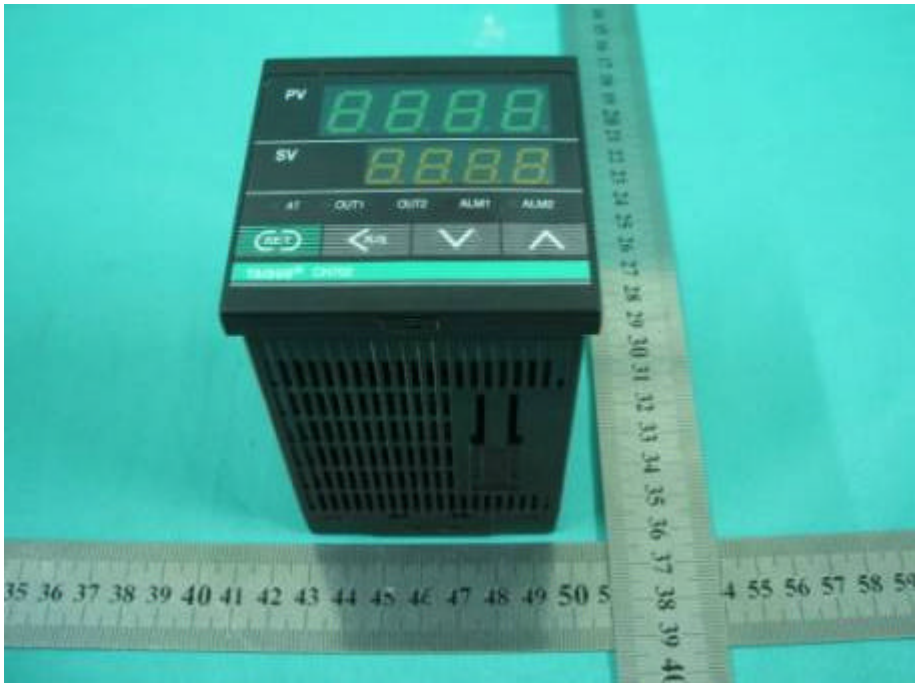
Appendix 1

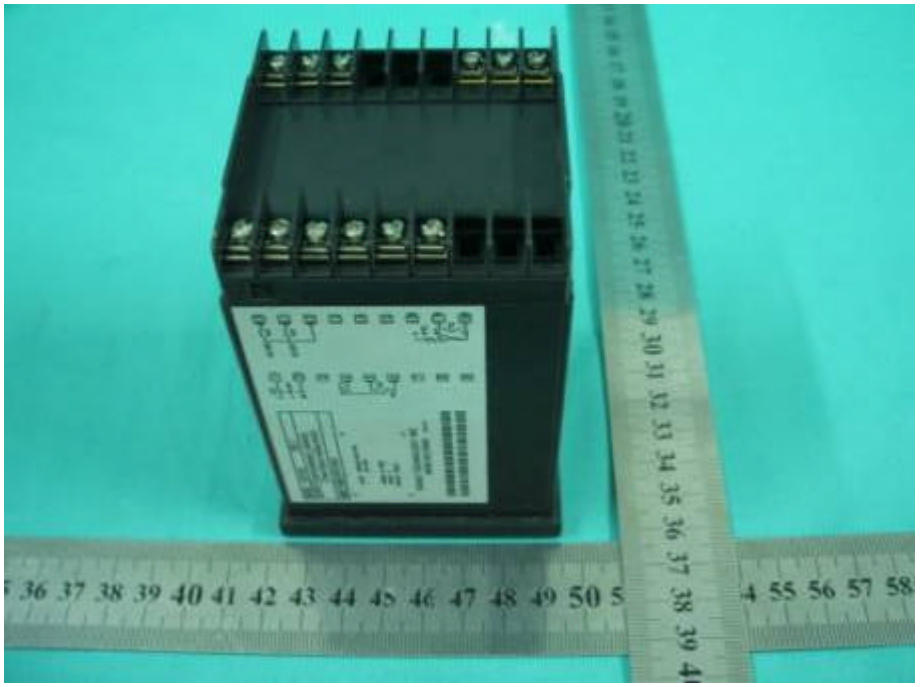
Whole views of 'Taisuo' Digital Controller
Model: CH902



Appendix 2

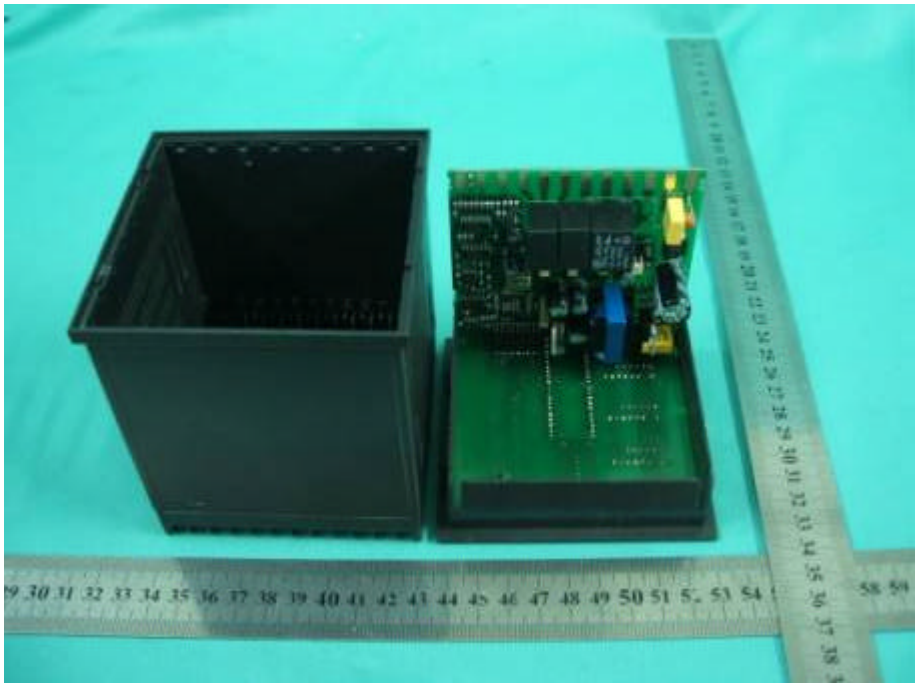
Whole view of 'Taisuo' Digital Controller
Model: CH702

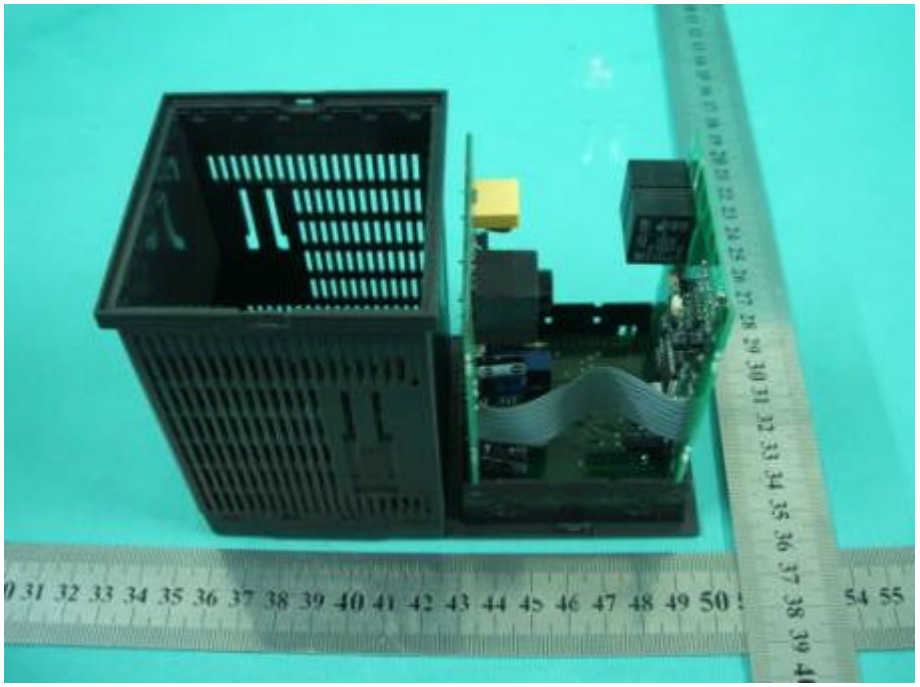




Appendix 3

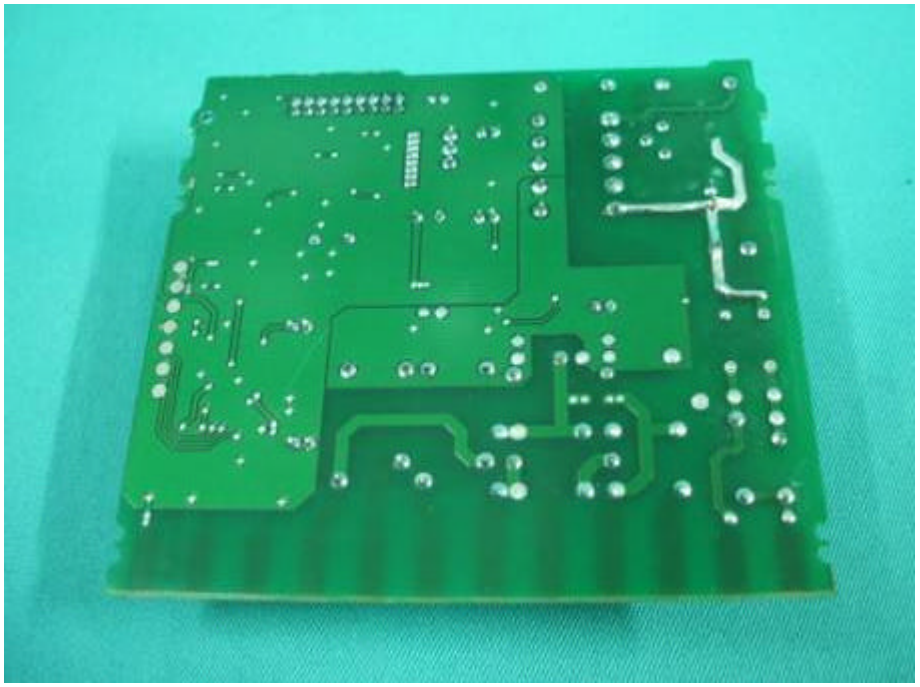
Internal views of 'Taisuo' Digital Controller
Model: CH902 & CH702





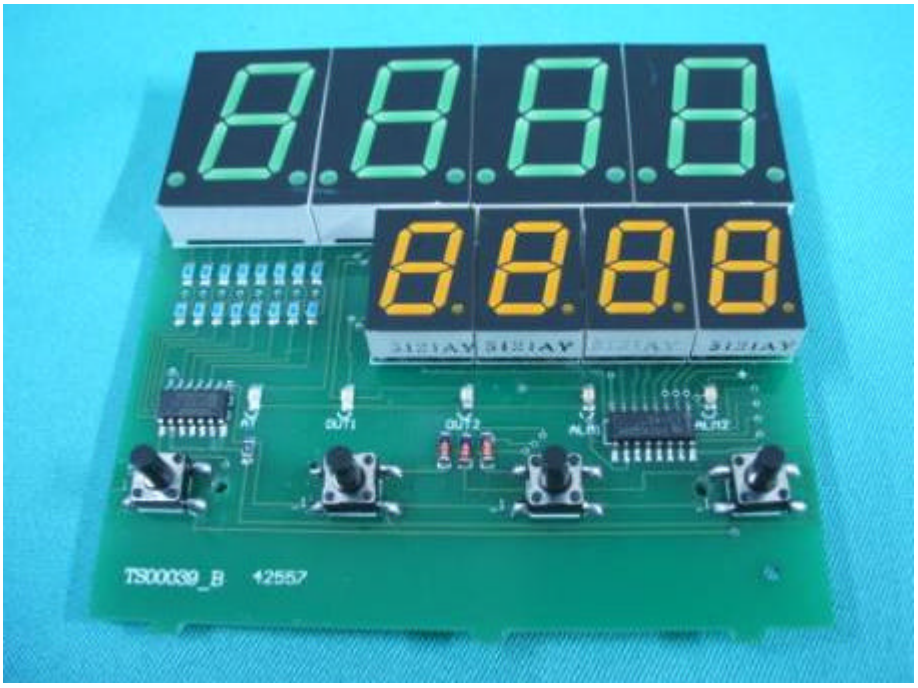
Appendix 4

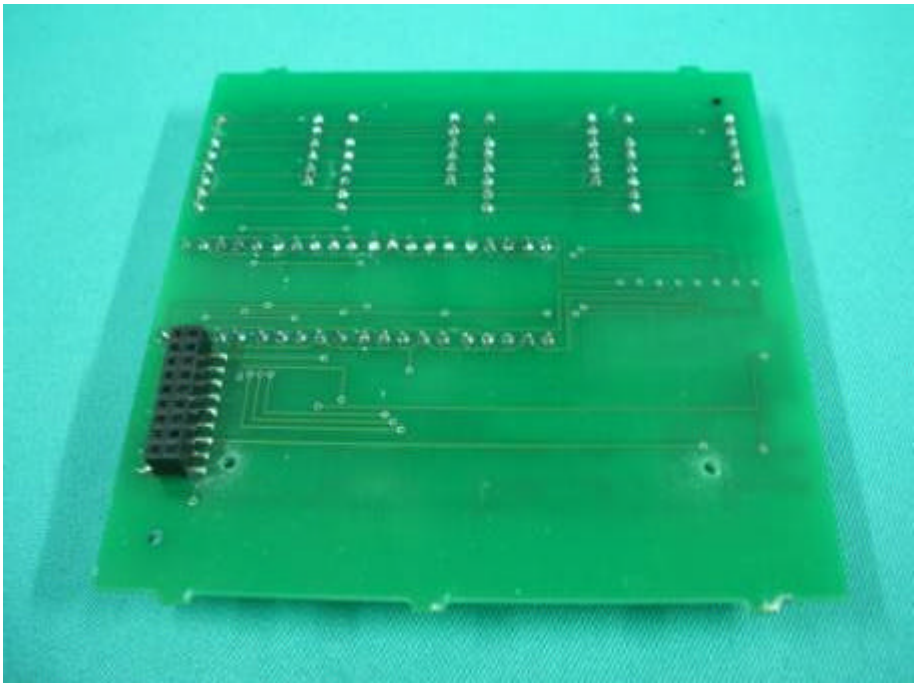
PCB view of 'Taisuo' Digital Controller
Model: CH902



Appendix 5

PCB views of 'Taisuo' Digital Controller
Model: CH902





Appendix 6

Product marking of 'Taisuo' Digital Controller
Model: CH902

Digital Controller

Model No.: CH902

Rated value: 100-240V~, 50/60Hz, 10VA(max)

Connection terminals of external conductors: Line conductors

Ta= 50℃, Test range: 0-400℃

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#2, East Yuzhou Road, Yuyao City, Zhejiang, China

Manufacture date: May, 2006

Made in china

END OF THIS REPORT