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仪表用控制电缆、数字巡回检测装置用屏蔽电缆

Chapter 5 Control Cable Used In Instruments And Shielded Cable Fot Digital Circulating Detection

1 产品执行标准 Manufacturing standard

Q/VAMT16-2007 阻燃耐火特性试验执行 GB12666-90 标准

Q/VAMT16-2007 Flameproof tests are done according to GB12666-90.

2 产品特点及用途 Characteristics and uses

本产品适用于交流额定电压 450/750kV 及以下仪表用控制电缆产品，巡回检测装置屏蔽电缆采用对绞铝塑复合膜屏蔽和铜丝编织屏蔽，抗干扰性优越，广泛用于计算机测控装置。

Used in the electrical instruments with the rated voltage: 450/750V or lower. The circulating detection devices employ Al-plolyster film shield and copper wire shield, which possesses good anti-interference property.Thus, it is used in computer detecting and controlling devices.

3 使用特性 Service characteristics

3.1 交流额定电压：Uo/U：450/750V;

3.2 最高工作温度不超过 70℃;

3.3 电缆安装敷设温度应不低于 0℃;

3.4 电缆允许弯曲半径： 非铠装电缆最小为电缆外径的 10 倍； 铜带屏蔽或钢带铠装电缆最小为电缆外径的 12 倍。

3.1 Rated voltage : Uo/U 450/750V ;

3.2 Max working temperature ⩽ 70℃;

3.3 Laying temperature: ⩾ 0℃;

3.4 Allowed bending radius: ⩾ 10 times the outer diameter of the unarmored cable;
⩾ 12 times the outert diameter of the copper tape shielded or steel tape armored cable.

4 基本型号及名称 Model and names

4.1 仪表用控制电缆 Instrumental control cable

表 1 Table 1

KJYVP	聚乙烯绝缘聚氯乙烯护套铜编织屏蔽仪表用控制电缆 PE insulated PVC sheathed copper wire shielded instrumental control cable
KJYVPR	聚乙烯绝缘聚氯乙烯护套铜编织屏蔽仪表用控制软电缆 PE insulated PVC sheathed copper wire shielded instrumental soft control cable
KJYVP2	聚乙烯绝缘聚氯乙烯护套铜带屏蔽仪表用控制电缆 PE insulated PVC sheathed copper tape shielded instrumental control cable
KJYVP2R	聚乙烯绝缘聚氯乙烯护套铜带屏蔽仪表用控制软电缆 PE insulated PVC sheathed copper tape shielded instrumental soft control cable
KJYVP3	聚乙烯绝缘聚氯乙烯护套铝塑复合膜屏蔽仪表用控制电缆 PE insulated PVC sheathed Al-ployester shielded instrumental control cable
KYJVP3R	聚乙烯绝缘聚氯乙烯护套铝塑复合膜屏蔽仪表用控制软电缆 PE insulated PVC sheathed Al-ployester shielded instrumental soft control cable
KJVVP	聚氯乙烯绝缘聚氯乙烯护套铜编织屏蔽仪表用控制电缆 PVC insulated PVC sheathed copper wire shielded instrumental control cable
KJVVPR	聚氯乙烯绝缘聚氯乙烯护套铜编织屏蔽仪表用控制软电缆 PVC insulated PVC sheathed copper wire shielded instrumental soft control cable
KJVVP2	聚氯乙烯绝缘聚氯乙烯护套铜带屏蔽仪表用控制电缆 PVC insulated PVC sheathed copper tape shielded instrumental control cable

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表 1 Table 1

KJVVP2R	聚氯乙烯绝缘聚氯乙烯护套铜带屏蔽仪表用控制软电缆 PVC insulated PVC sheathed copper tape shielded instrumental soft control cable
KJVVP3	聚氯乙烯绝缘聚氯乙烯护套铝塑复合膜屏蔽仪表用控制电缆 PVC insulated PVC sheathed Al-ployester shielded instrumental control cable
KJVVP3R	聚氯乙烯绝缘聚氯乙烯护套铝塑复合膜屏蔽仪表用控制软电缆 PVC insulated PVC sheathed Al-ployester shielded instrumental soft control cable

阻燃型电缆在型号前加ZR。 "ZR" is added prior to the flameproof types.

4.2 数字巡回检测装置用屏蔽电缆

表 2 Table 2

KJCP	数字巡回检测装置用屏蔽电缆	Shielded cable for digital circulating detecting devices
KJCPR	数字巡回检测装置用屏蔽软电缆	Shielded、soft cable for digital circulating detecting devices

阻燃型电缆在型号前加ZR。 "ZR" is added prior to the flameproof types.

5 代号名称和含义 Codes and meanings

表 3 Table 3

项 目 Item	代号 Code	说明 Meaning
阻燃特性 Flameproof characteristics	ZR	分A、B、C级阻燃 Grade:A、B、C
系列代号 Series code	KJ	仪表用控制电缆(数字巡回控制电缆) Instrumental control cable (Digital circulating control cable)
绝缘材料 Insulated material	V	聚氯乙烯、阻燃聚氯乙烯 PVC、flameproof PVC
	Y	聚乙烯 PE
护套材料 Sheath material	F	聚氯乙烯、阻燃聚氯乙烯 PVC、flameproof PVC
屏蔽材料 Shield material	P	铜丝编织屏蔽 Copper wire woven shield
	P1	镀锡铜丝屏蔽 Tinned copper wire shield
	P2	铜带绕包屏蔽 Copper tape wrapped shield
	P3	铝塑绕包屏蔽 Al-polyester tape wrapped shield
铠装材料 Armor material	2	钢带铠装聚氯乙烯护套 Steel tape armored、PVC sheath
	2	钢带铠装聚乙烯护套 Steel tape armored、PE sheath
	3	钢丝铠装聚氯乙烯护套 Steel wire armored、PVC sheath
	3	钢丝铠装聚乙烯护套 Steel wire armored、PE sheath
导体结构 Conductor structure	A	单股导体 Single-strand conductor
	B	七股导体 7-strands conductor
	R	多股绞合导体 Multi-strands conductor

6 主要技术指标 Main tehnological indexes

6.1 成品电缆导体直流电阻符合GB/T3956。

6.2 20℃时绝缘电阻不小于5000MΩ·KM,成品电缆经受交流50HZ 2.0KV/5min电压试验不击穿。

6.1 The DC resistance of the cable conforms to GB/T3956.

6.2 Insulation resistance at 20℃ ⩾ 5000MΩ·KM,the cable can bear 50HZ 2.0KV/5min without puncture.

7 基本电缆规格及结构参数 Specifications and structure parameters

参照塑料绝缘屏蔽控制电缆及相同结构计算机控制电缆。

Refer to the plastic insulated control cable and the control cable for computers(of the same structure.)

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8 控制电缆的近似外径及净重量 Approximate OD and weight of control cable

表4 Table 4

芯数×标称截面 Norminal cross-sectional area of conductor(mm^2)	最大外径 Max.diameter (mm)				参考重量 Approx wight(kg/km)			
	KYV KVV	KYVP KVVP	$KYVP_2$ $KVVP_2$	KYV_{22} KVV_{22}	KYV KVV	KYVP KVVP	$KYVP_2$ $KVVP_2$	KYV_{22} KVV_{22}
2 × 0.75	7.7	9.0	10.5	11.2	72	114	138	204
2 × 1.0	8.0	9.6	11.0	11.9	81	124	148	214
2 × 1.5	9.1	10.7	12.2	12.9	109	157	186	247
2 × 2.5	10.5	11.6	13.1	13.8	154	201	236	292
2 × 4.0	11.6	13.3	14.8	15.6	187	346	406	436
2 × 6.0	12.8	14.8	16.3	17.1	241	351	410	441
4 × 0.75	8.7	10.1	12.0	12.7	104	153	183	244
4 × 1.0	9.1	10.7	12.4	13.2	119	163	198	253
4 × 1.5	10.5	11.6	13.4	14.2	156	203	233	302
4 × 2.5	11.9	14.1	15.5	16.3	226	330	375	413
4 × 4.0	14.0	15.3	16.7	17.6	316	436	493	505
4 × 6.0	15.2	16.8	17.8	18.7	413	530	602	619
7 × 0.75	10.1	11.5	13.3	13.8	146	202	244	317
7 × 1.0	10.7	12.1	13.8	14.3	169	217	259	354
7 × 1.5	12.8	14.1	15.7	15.8	225	330	378	425
7 × 2.5	14.8	16.3	17.5	18.3	353	472	520	554
7 × 4.0	16.6	17.5	19.0	19.8	473	601	379	701
7 × 6.0	18.2	19.5	20.5	20.9	652	789	892	921
10 × 0.75	12.7	14.8	16.0	16.7	265	300	341	352
10 × 1.0	13.9	15.3	16.8	17.4	256	368	438	449
10 × 1.5	15.9	17.3	18.5	19.0	340	456	520	558
10 × 2.5	18.4	19.8	21.2	21.9	500	636	726	753
10 × 4.0	21.4	22.4	23.3	23.8	711	863	941	976
10 × 6.0	23.6	24.2	25.3	25.9	956	1108	1208	1245
14 × 0.75	14.2	15.8	17.0	17.9	285	396	451	463
14 × 1.0	14.9	16.3	17.7	18.6	321	443	518	530
14 × 1.5	17.1	18.6	19.6	20.6	432	550	672	684
14 × 2.5	20.0	21.9	22.6	23.7	670	800	900	913
14 × 4.0	23.2	24.4	24.9	25.9	912	1045	1149	1158
14 × 6.0	35.6	27.0	27.1	28.1	1198	1305	1434	1448
19 × 0.75	15.7	16.8	18.3	18.9	347	456	531	574
19 × 1.0	16.4	17.8	19.0	19.6	408	517	629	645
19 × 1.5	18.9	20.9	21.6	22.4	533	674	808	824
19 × 2.5	22.8	23.9	24.7	25.5	1053	986	1103	1119
24 × 0.75	18.1	19.0	169.0	21.0	400	523	476	642
24 × 1.0	19.0	20.5	21.5	22.5	510	634	760	776
24 × 1.5	22.6	24.0	24.0	25.2	744	866	985	1101
24 × 2.5	26.5	28.0	28.0	29.0	1110	1258	1360	1376

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	KYV KVV	KYVP KVVP	$KYVP_2$ $KVVP_2$	KYV_{22} KVV_{22}	KYV KVV	KYVP KVVP	$KYVP_2$ $KVVP_2$	KYV_{22} KVV_{22}
37 × 0.75	20.5	22.0	23.0	24.0	600	764	807	823
37 × 1.0	22.0	23.5	24.5	25.0	770	912	997	1013
37 × 1.5	25.5	27.5	28.5	29.0	1050	1196	1315	1331
37 × 2.5	30.0	32.5	33.5	34.0	1591	1741	1900	2079
48 × 0.75	23.5	25.0	26.0	27.0	832	927	1090	1106
48 × 1.0	25.0	26.5	27.5	28.5	967	1097	1220	1236
48 × 1.5	29.5	31.0	32.2	33.0	1326	1487	1620	1890
48 × 2.5	35.5	37.5	38.5	39.0	2070	2147	2347	2537
61 × 0.75	25.5	27.5	28.5	29.5	967	1087	1233	1251
61 × 1.0	27.0	29.0	30.0	31.5	1186	1316	1450	1470
61 × 1.5	32.0	34.5	35.5	36.5	1680	1837	2021	2185
61 × 2.5	39.0	41.0	42.0	42.5	2599	2749	3015	3175

9 导体结构 Conductor type

表5 Table 5

标称截面 Nominal section (mm^2)	导体结构 Conductor type		20℃时导体电阻不大于Ω/kv At 20℃,conductor resistance not more than (Ω/kv)	
	种类 Kind	根数/单线标称直径 Pcs/nominal diameter of single wire mm	不镀锡 Non-tinned	镀锡 Tinned
0.75	1	1/0.97	24.5	24.8
0.75	2	7/0.37	24.5	24.5
0.75	3	24/0.20	26.0	26.7
1.0	1	1/1.13	18.1	18.1
1.0	2	7/0.43	19.1	18.2
1.0	3	32/0.20	19.5	20.0
1.5	1	1/1.38	12.1	12.2
1.5	2	7/0.52	12.1	12.2
1.5	3	30/0.25	13.3	13.7
2.5	1	1/1.78	7.41	7.50
2.5	2	7/0.68	7.41	7.56
2.5	3	50/0.25	7.98	8.21
4	1	1/2.25	4.60	4.70
4	2	7/0.85	4.61	5.09
6	1	1/2.76	3.08	3.11
6	2	7/1.04	3.08	3.11
10	3	7/1.35	1.83	1.84