

Customer: ALPS EUROPE DISTRIBUTION

No. ECR2009-6582

Date: Feb. 16, 2009

Attention:

Your ref. No.:

Your Part No.: STEC11B03

SPECIFICATIONS

ALPS';

MODEL: EC11B152442D

Spec. No.:

Sample No.: F 7 3 7 4 6 9 7 M

RECEIPT STATUS

RECEIVED

By Date

Signature

Name

Title

ALPS
ALPS ELECTRIC CO., LTD.

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Q1003#03A (EA)

S P E C I F I C A T I O N S

1. THIS SPECIFICATIONS APPLY TO EC11B152442D ROTARY ENCODERS.

2. CONTENTS OF THIS SPECIFICATIONS.

F7374697M
LA211446S
4K-1

3. MARKING

- MARKING ON ALL UNITS
EIA DATE CODE

4. REMARKS

- FURNISH PACKAGE
NUT:1 WASHER:1

• CAUTION

1. For the export of products which are controlled items subject to foreign and domestic export laws and regulations, you must obtain approval and/or follow the formalities of such laws and regulations.

2. Products must not be used for military and/or antisocial purposes such as terrorism, and shall not be supplied to any party intending to use the products for such purposes.

3. Unless provided otherwise, the products have been designed and manufactured for application to equipment and devices which are sold to end-users in the market, such as AV (audio visual) equipment, home electric equipment, office and commercial electronic equipment, information and communication equipment or amusement equipment. The products are not intended for use in, and must not be used for, any application of nuclear equipment, driving control equipment for aerospace or any other unauthorized use.

With the exception of the above mentioned banned applications, for applications involving high levels of safety and liability such as medical equipment, burglar alarm equipment, disaster prevention equipment and undersea equipment, please contact an Alps sales representative and/or evaluate the total system on the applicability. Also, implement a fail-safe design, protection circuit, redundant circuit, malfunction protection and/or fire protection into the complete system for safety and reliability of the total system.

4. Before using products which were not specifically designed for use in automotive applications, please contact an Alps sales representative.

5. The products shall be stored in the original packaging and kept at room temperature and humidity, out of direct sunlight, and away from any and all corrosive gas. The products shall be completely used as soon as possible, but no later than 6 months from the date of delivery.

Once product packaging is opened, the complete quantity of such products shall be promptly used.

| | | | | | | | | |
|---|--|------|------|------|---|-------------|--------------|-------------------|
| CLASS No. | TITLE | | | | | | | |
| | 11形回転形エンコーダ仕様書 11mm Size Rotary Encoder Specification | | | | | | | |
| <p>7. 組立条件書 Soldering conditions (SW01). (SW02)</p> <p>7-1 手組むための条件 Manual soldering</p> <p>温度350°C以下、時間3秒以内 Bit temperature of soldering iron : 350°C or less. Application time of soldering iron : within 3s.</p> <p>7-2 フィッパむための条件 Dip soldering</p> <p>使用基板 : t1.6両面銅箔基板 Printed wiring board: Both-sided copper clad laminate board with thickness of 1.6mm.</p> <p>フラックス : 比重0.82以上のフラックスを用い塗布式フラックスを乾燥面を被せ、基板厚の3分02。 Flux:</p> <ul style="list-style-type: none"> Specific gravity: 0.82 or more. Flux shall be applied to the board using a bubble foaming type fluxer. The board shall be soaked in the flux bubble only to the 2/3 of its thickness. <p>プリヒート : 基板表面温度100°C以下、時間2分以内 Preheating:</p> <ul style="list-style-type: none"> Surface temperature of board: 100°C or less. Preheating time: within 2 min. <p>はんだ Soldering:</p> <ul style="list-style-type: none"> 温度260±5°C、時間5±1秒 Solder temperature: 260±5°C. Immersion time: 5±1 sec. <p>以上の工程を1回または2回繰り返す。 Apply the above soldering process for 1 or 2 times.</p> | | | | | | | | |
| SYMB | DATE | APPD | CHKD | DSGD | TITLE | CHKD. | DSGD. | TITLE |
| | | | | | 11形回転形エンコーダ 11mm Size Rotary Encoder | Y. YOSHIOKA | Mar. 22, '96 | Y. YOSHIOKA |
| | | | | | DOCUMENT NO. | | | DOCUMENT NO. |
| | | | | | F 7 3 7 4 6 9 7 M | | | F 7 3 7 4 6 9 7 M |

ALPS ELECTRIC CO., LTD.

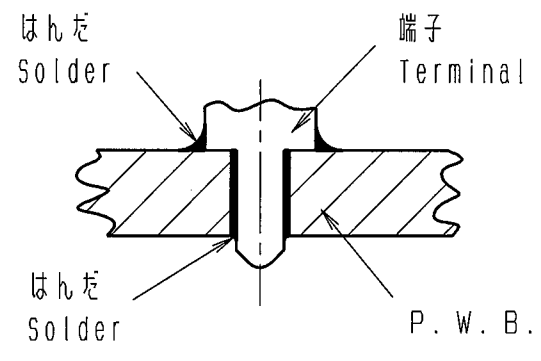
| CLASS No. | TITLE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|--|------------------|----------------------|---|---|-----------------------|--------------------------|---|------------------------------|-----------------------------------|--|---|--------------------------------|--|--|------------|------------------|----------------------|---------------------------------------|--|---|---------------------------------|--|--------------|---------------------------------------|--|------|------------|------------------|----------------------|----------------------------|---|--|
| | プッシュモーメントスイッチ仕様書 PUSH MOMENTARY SWITCH SPECIFICATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>1. 定格容量 (基準負荷) D. C. 5V 0.1A (500mA MIN) Switch rating (resistor load)</p> <p>2. 電気的性質 Electrical characteristics</p> <table border="1"> <thead> <tr> <th>項目 Item</th> <th>条件 Conditions</th> <th>規格 Specifications</th> </tr> </thead> <tbody> <tr> <td>2-1 接触抵抗 Contact resistance</td> <td>D. C. 5V10mA電圧降下法で測定する。 Measured by the 10mA 5V D. C. voltage drop method.</td> <td>100mA以下 100mA MAX.</td> </tr> <tr> <td>2-2 チャタリング Chattering</td> <td>1サイクル (OFF-ON-OFF)当たり動作は1回。 Switch is operated at the rate of 1 cycle 1 sec. The 1 cycle shall be OFF-ON-OFF.</td> <td>10mSec以下 Less than 10msec</td> </tr> <tr> <td>2-3 絶縁抵抗 Insulation resistance</td> <td>端子-端子間電圧D. C. 250V1mA印加する。 Measurement shall be made under the condition which a voltage of 250V D. C. 1mA is applied between individual terminals and bushing.</td> <td>端子-端子間電圧100V以上 Between individual terminals and bushing: 100V MIN.</td> </tr> <tr> <td>2-4 耐電圧 Dielectric strength</td> <td>端子-端子間電圧A. C. 300V1分間又はA. C. 360V2秒間印加する。(リーク電流1mA) A voltage of 300VA. C. shall be applied for 1min or a voltage of 360VA. C. shall be applied for 2sec between individual terminals and bushing. (Leak current:1mA)</td> <td>端子-端子間電圧100V以上 Without damage to parts arcing or breakdown.</td> </tr> </tbody> </table> <p>注記: Note: 軸・スイッチ端子間絶縁抵抗は必ず取りま。 Shaft is insulated from switch terminal.</p> <p>3. 機械的性質 Mechanical characteristics</p> <table border="1"> <thead> <tr> <th>項目 Item</th> <th>条件 Conditions</th> <th>規格 Specifications</th> </tr> </thead> <tbody> <tr> <td>3-1 スイッチ回路・接点数 Contact arrangement</td> <td></td> <td>単極単投 (PUSH ON) S. P. S. T. (Push on)</td> </tr> <tr> <td>3-2 スイッチ作動量 Switching stroke</td> <td></td> <td>0.5 ± 0.3 mm</td> </tr> <tr> <td>3-3 スイッチ作動力 Switch operation force</td> <td></td> <td>6±3N</td> </tr> </tbody> </table> <p>4. 耐久性質 Endurance characteristics.</p> <table border="1"> <thead> <tr> <th>項目 Item</th> <th>条件 Conditions</th> <th>規格 Specifications</th> </tr> </thead> <tbody> <tr> <td>4-1 寿命特性 Operating life</td> <td>定格負荷以下で毎時5000回の動作を25,000回連続動作を行う。 The shaft of switch shall be 25,000 times at a speed of 500 times per hour without electrical load. However, an interim measurement shall be made immediately after 5,000 times.</td> <td>連続動作: 20000回以下 その他、初期動作を満足すること。 Switch contact resistance: 200mΩ MAX. Except above items, specifications in clause 2. 2-4, and 3. 1-3 shall be satisfied.</td> </tr> </tbody> </table> | | 項目 Item | 条件 Conditions | 規格 Specifications | 2-1 接触抵抗 Contact resistance | D. C. 5V10mA電圧降下法で測定する。 Measured by the 10mA 5V D. C. voltage drop method. | 100mA以下 100mA MAX. | 2-2 チャタリング Chattering | 1サイクル (OFF-ON-OFF)当たり動作は1回。 Switch is operated at the rate of 1 cycle 1 sec. The 1 cycle shall be OFF-ON-OFF. | 10mSec以下 Less than 10msec | 2-3 絶縁抵抗 Insulation resistance | 端子-端子間電圧D. C. 250V1mA印加する。 Measurement shall be made under the condition which a voltage of 250V D. C. 1mA is applied between individual terminals and bushing. | 端子-端子間電圧100V以上 Between individual terminals and bushing: 100V MIN. | 2-4 耐電圧 Dielectric strength | 端子-端子間電圧A. C. 300V1分間又はA. C. 360V2秒間印加する。(リーク電流1mA) A voltage of 300VA. C. shall be applied for 1min or a voltage of 360VA. C. shall be applied for 2sec between individual terminals and bushing. (Leak current:1mA) | 端子-端子間電圧100V以上 Without damage to parts arcing or breakdown. | 項目 Item | 条件 Conditions | 規格 Specifications | 3-1 スイッチ回路・接点数 Contact arrangement | | 単極単投 (PUSH ON) S. P. S. T. (Push on) | 3-2 スイッチ作動量 Switching stroke | | 0.5 ± 0.3 mm | 3-3 スイッチ作動力 Switch operation force | | 6±3N | 項目 Item | 条件 Conditions | 規格 Specifications | 4-1 寿命特性 Operating life | 定格負荷以下で毎時5000回の動作を25,000回連続動作を行う。 The shaft of switch shall be 25,000 times at a speed of 500 times per hour without electrical load. However, an interim measurement shall be made immediately after 5,000 times. | 連続動作: 20000回以下 その他、初期動作を満足すること。 Switch contact resistance: 200mΩ MAX. Except above items, specifications in clause 2. 2-4, and 3. 1-3 shall be satisfied. |
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| | | | | | プッシュモーメントスイッチ仕様書 PUSH MOMENTARY SWITCH SPECIFICATION | Y. YOSHIOKA | Mar. 22, '96 | Y. YOSHIOKA | | | | | | | | | | | | | | | | | | | | | | | | | | |
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ALPS ELECTRIC CO., LTD.

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<はんだ付け時の注意事項>
 Caution for soldering

図のようにP.W.B.の上にはんだ付けをする配線は避け下さい。
 Please avoid soldering on upper surface of P.W.B. as shown



⚠ 基板に挿入される金属足ははんだ付けしてご使用願います。
 Solder all metal inserted fixing including terminals & metal lugs into a substrate.

| | | | | | | | | | | |
|----------------|----------|------|------|------|--------------------------------|---------------|---------------|----------------------------|--|--|
| | | | | | ALPS ELECTRIC CO., LTD. | | | | | |
| | | | | | APPD. DSG1 | CHKD. DSG1 | DSGD. DSG1 | TITLE F 7 3 7 4 6 9 7 M | | |
| | | | | | Y. YOSHIOKA | Y. SATO | Y. OYA | DOCUMENT NO. | | |
| △ ₁ | 09-01-27 | Y. K | Y. K | H. M | 1996/01/11 | 1996/01/11 | 1996/01/11 | 4 K - 1 (1/1) | | |
| SYMB | DATE | APPD | CHKD | DSGD | | | | | | |