

For Receipt       For reference

Date of Issue : September 16, 2008

OMRON CORPORATION  
 OMRON KURAYOSHI Co., Ltd.  
 Product Engineering Group, 1st Product Department

**RoHS Directive Compliant**

Prepared by  S.Maeda	Checked by  /	Approved by  A.Arataki
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**PRODUCT SPECIFICATION**

Description :           PUSH BUTTON SWITCH          

Part Number :           C2U          

Product Specifications No. :           2795087-0 A1          

■ Please return   copy (copies) of this specification sheet signifying your acceptance by stamping below.  
 Due date:

Registration part number for customer
Description :
Part number :

Receipt Stamp (For receipt purpose only)
<p>■ Please accept handling of this specification sheet as for reference use if no reply received.</p>

Submitted Stamp

Handled by

**Distribution**

	Copy
Customer	
Sales (            )	

## 1. BASIC CONSTRUCTION AND CHARACTERISTICS

1-1.Outline drawing : No. 0360345-2

1-2.Operating method : Snap action

1-3.Operating frequency

Mechanically : 120 ops/min

Electrically : 60 ops/min

1-4. Operating velocity : 1~1000 mm/s

1-5. Contact form : Double-pole , single-throw(D.P.S.T)

1-6. Terminal form : With curl-code 0.6m

1-7. Ratings : 2A, 30VDC (under resistive load)

2A, 125VAC (under resistive load)

1-8. Operating temperature and humidity : Temperature -10 ~ 40 °C / Humidity 75%RH max. (\*)

1-9. Storage temperature and humidity : Temperature -30 ~ 75 °C / Humidity 75%RH max. (\*)

(\* No icing and condensation)

## 2. PERFORMANCE

### 2-1. Operating Characteristics (Initial value)

	Item	(Abbr.)	Unit	Value
1	Operating force1	(OF1)	N	4.90±1.47
2	Operating force2	(OF2)	N	15.69±2.94
3	Pretravel 1	(PT1)	mm	(3.5)
4	Pretravel 2	(PT2)	mm	(11.5)
5	Total travel	(TT)	mm	(15)

### 2-2. Electrical Performance

	Items	Test conditions	Criteria
2.2.1	Contact resistance	The DC6 to 8V 1A voltage descending method.	2Ω max.
2.2.2	Insulation resistance	Voltage :500VDC Measurement point :Between terminals of same polarity. :Between terminals of different polarity. :Between non-live metal parts and ground.	100MΩ min.
2.2.3	Dielectric strength	Voltage :1000VAC (1 minute) ①and② 1500VAC (1 minute) ③ Measurement point :①Between terminals of same polarity. :②Between terminals of different polarity. :③Between non-live metal parts and ground.	No dielectric breakdown
2.2.4	Operation service life	Load :2A,125VAC Number of operations :200,000 operations min. Operating frequency :30 operations/minute	Operating characteristics :Within ±20% of initial value. Contact resistance :20Ω max. Insulation resistance :100MΩ min Dielectric strength :1000 or 1500VAC 1 minute

## 2-3. Mechanical performance

	Items	Test conditions	Criteria
2.3.1	Actuator strength	Force :88.2 N Time :1 minute Direction :Actuator operating direction	Operating characteristics :Within $\pm 20\%$ of initial value.  Contact resistance :20 $\Omega$ max.  Insulation resistance :100M $\Omega$ min  Dielectric strength :1000 or 1500VAC 1 minute
2.3.2	Code strength	Force :29.4 N Time :1 minute Direction :Pull	
2.3.3	Mechanical life	Number of operations :500,000 operations min. Operating frequency :60 operations/minute	
2.3.4	Vibration	Total amplitude :1.5 mm Frequency :10 ~ 55 Hz One cycle duration :3 ~ 5 minutes Direction :X and Y direction Time :2 hours/direction	
2.3.5	Shock①	Acceleration :300m/s <sup>2</sup> Direction :X and Y direction Time :3 times/direction	
	Shock②	Drop onto the concrete floor from 1m height.	
2.3.6	Malfunction shock	Acceleration :300m/s <sup>2</sup> Direction :X and Y direction Time :3 times/direction Voltage :5 VDC Current :20 mA Position :Free position or total travel Position.	Incorrect operation :1ms max.

## 2-4. Environmental Performance

	Items	Test conditions	Criteria
2.4.1	Dry heat	Leave the switch in the following condition, after that, leave it in normal temperature and humidity for 1 hour. Then, measure it by standard test condition.  Ambient temperature : 75 ~ 80 °C Time : 48 hours	Operating characteristics :Within $\pm 20\%$ of initial value.  Contact resistance :20 $\Omega$ max.  Insulation resistance :100M $\Omega$ min  Dielectric strength :1000 or 1500VAC 1 minute
2.4.2	Cold	Leave the switch in the following condition, after that, leave it in normal temperature and humidity for 1 hour. Then, measure it by standard test condition.  Ambient temperature : -30 ~ -35 °C Time : 48 hours	

	Items	Test conditions	Criteria
2.4.3	Damp heat	<p>Leave the switch in the following condition, after that, leave it in normal temperature and humidity for 1 hour. Then, measure it by standard test condition.</p> <p>Ambient temperature : <math>40 \pm 2</math> °C  Ambient humidity : 95 ~ 100 %RH  Time : 100 hours</p>	<p>Operating characteristics : Within <math>\pm 20\%</math> of initial value.</p> <p>Contact resistance : <math>20 \Omega</math> max.</p> <p>Insulation resistance : <math>100M \Omega</math> min</p> <p>Dielectric strength : 1000 or 1500VAC 1 minute</p>

Note : Each performance item is mentioned only about each test condition, not mentioned to guarantee complex condition tests of all above items.

Please evaluate the switch in advance under actual use condition in your side, and confirm there is no problem.

### 3. STANDARD TEST CONDITION

Temperature :  $20 \pm 2$  °C

Humidity :  $65 \pm 5\%$ RH

### 4. PRECAUTIONS

#### 4-1 Wiring

The rough standard for soldering work is as follows;

Capacity of soldering iron : 60W

Soldering time : 3 seconds Max.

#### 4-2 Usage/storage environment

- 1) Avoiding the location where a corrosive gas is generated or mperature changes suddenly, the ambience of high temperature or humidity, dusts and others.
- 2) It is recommended that the switch should be inspected before use if it is stored for 1 year after the production, depending on the location.

### 5. WARRANTY

#### 5.1 Content

##### (1) Warranty period

The warranty period for an OMRON product is one year from either the date of purchase or the date on which the OMRON product is delivered to the specified location.

##### (2) Extent of warranty

If an OMRON product is subject to a failure for which OMRON is responsible during the warranty period, either a replacement product will be provided or the defective product will be repaired free of charge at the place of purchase.

This warranty, however, will not cover the problems that occur as a result of any of the following:

- 1) Using the OMRON product under conditions or in an environment not described in catalogs or in the specifications, or not operating the OMRON product according to the instructions contained in catalogs or in the specifications
- 2) Problem caused by something other than the OMRON product.
- 3) Modifications or repairs performed by a party other than OMRON.
- 4) Using the OMRON product for other than its designed purpose.
- 5) Problems that could not have been foreseen with the level of science and technology that existed at the time the OMRON product was shipped.
- 6) Problems caused by an Act of God or other circumstances for which OMRON is not responsible.

This warranty covers only the OMRON product itself. It does not cover any other damages that may

occur directly or indirectly as a result of a problem with the OMRON product.

#### 5.2 Limitations of liability

OMRON shall not be responsible for special, indirect, or consequential damages originating in an OMRON product.

#### 5.3 Applicable conditions

- (1) When using OMRON products in combination with other products, it is the user's responsibility to confirm compliance with all applicable standards and regulations. It is also the user's responsibility to confirm the suitability of the OMRON products for the system, devices, and equipment that are being used. OMRON accepts no responsibility for the suitability of OMRON products used in combination with other products.
- (2) When using OMRON products in any of the following applications, consult an OMRON representative and check specifications to allow sufficient leeway in ratings and performance, and to implement suitable safety measures, such as safety circuits, to minimize danger in the event of an accident.
  - 1) Outdoor applications, applications with potential for chemical contamination or electrical interference, or application under conditions or environments not described in catalogs.
  - 2) Nuclear control systems, railroad systems, aviation systems, vehicles, combustion systems, medical equipment, amusement machines, or equipment regulated by government or industrial standards.
  - 3) Other systems, machines, and equipment that may have a serious influence on human life and property.
  - 4) Equipment requiring a high level of reliability, such as gas, water, or electrical supply systems, and systems that operate 24 hours a day.
  - 5) Other applications requiring a high level of safety, corresponding to items 1) to 4), above.
- (3) When OMRON products are used in an application that could pose significant risk to human life or property, the overall system must be designed so that the required safety can be ensured by providing notice of the danger and incorporating redundancy into the design. Make sure that OMRON products are appropriately wired and mounted to serve their intended purpose in the overall system.
- (4) Application examples provided in catalogs are for reference only. Confirm functionality and safety before actually using the devices and equipment.
- (5) To prevent unexpected problems from arising due to the OMRON product being used incorrectly by the customer or any other party, make sure that you understand and carefully observe all of the relevant prohibitions and precautions.
- (6) Each rating and performance value given in catalogs etc. is the value in an independent examination, and does not guarantee simultaneously the compound conditions of each rating and performance value.
- (7) Do not use the OMRON Product for automotive applications (including two-wheeled motor vehicle). Please consult with your OMRON representative if the OMRON Product is used in the automotive applications.

#### 5.4 Changes of specifications

Specifications and accessories to the products in catalogs may be changed as needed to improve the products or for any other reason. Check with your OMRON representative for the actual specifications for OMRON products at the time purchase.

#### 5.5 Treatment of the specifications for reference

When these specifications are issued for reference, please consult with your OMRON representative before Actually using the specifications and confirm the latest specifications for the OMRON product.

#### 5.6 Extent of service

The price of an OMRON product does not include service costs, such as dispatching technical staff. If you wish For service, please consult with your OMRON representative.

#### 5.7 Effective term

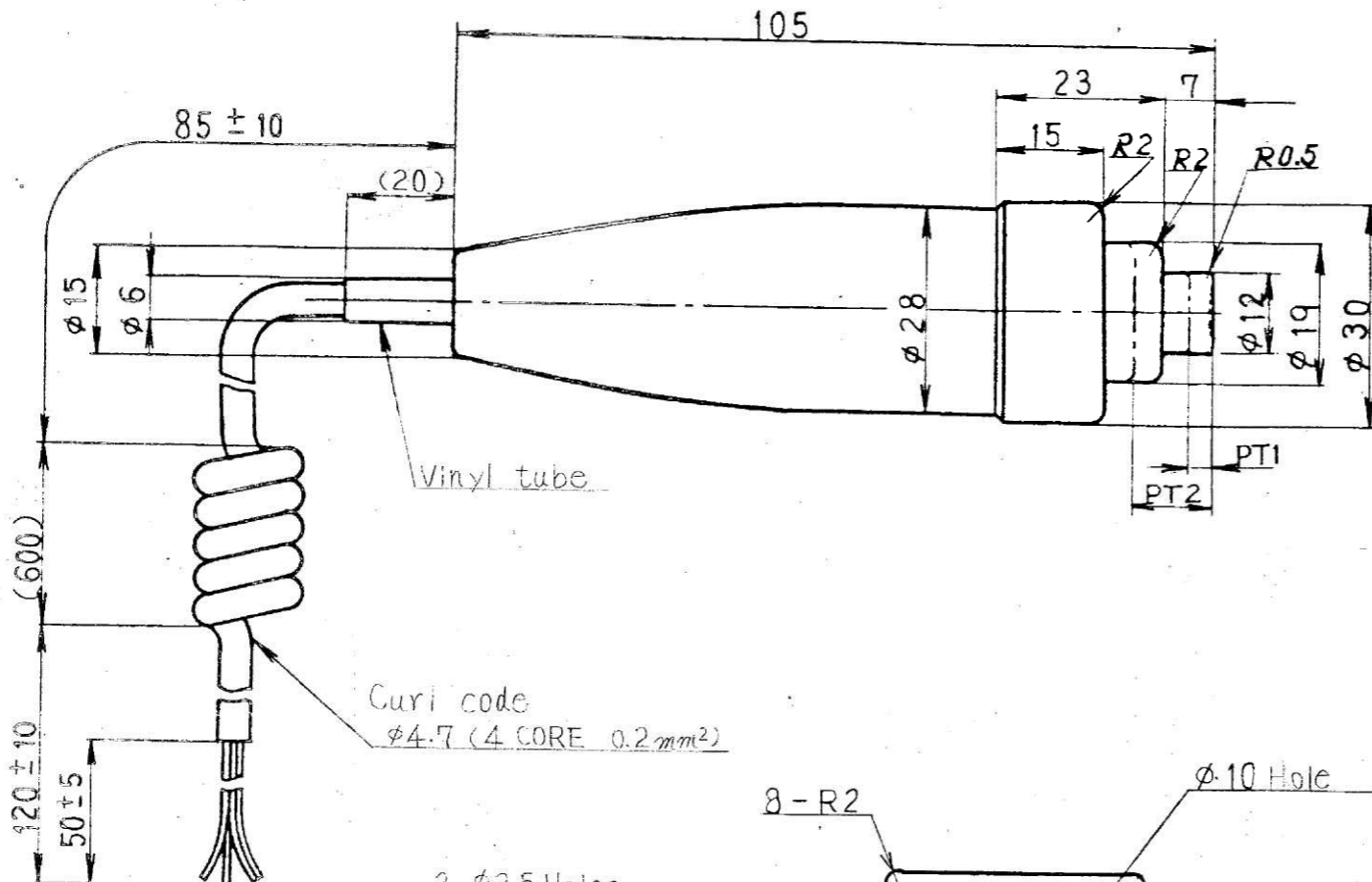
These specifications will be invalid when there is not return or an order for one year from the date of issue.

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A1	080128	Description of warranty revised	S.MAETA	K.TAKAMI
A	060213	New Preparation	T.NOYAMA	H.NAKAMURA
Code	Date	Revision content	Issue	Approval

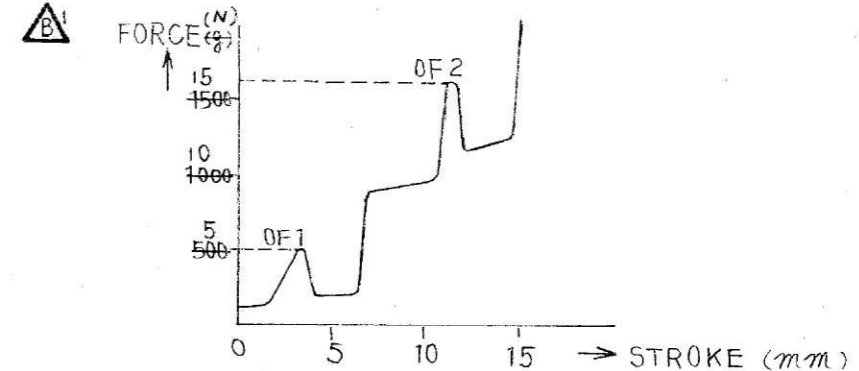
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A  
B  
C  
D  
E



1. OPERATING CHARACTERISTICS

ITEM	ABBR.	VALUE
OPERATING FORCE	OF1	500 ± 150 g 4.9 ± 1.47 N
	OF2	1600 ± 300 g 15.69 ± 2.94 N
PRE-TRAVEL	PT1	3.5 ± 0.7 mm (3.5) ⚠
	PT2	11.5 ± 0.7 mm (11.5) ⚠
TOTAL TRAVEL	TT	(15) mm



2. ELECTRICAL RATING

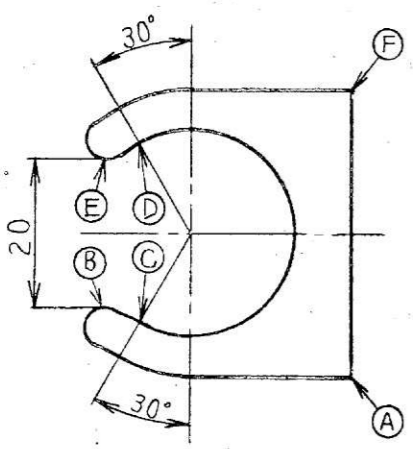
30 VDC, 2A 125 VAC, 2A

Note:

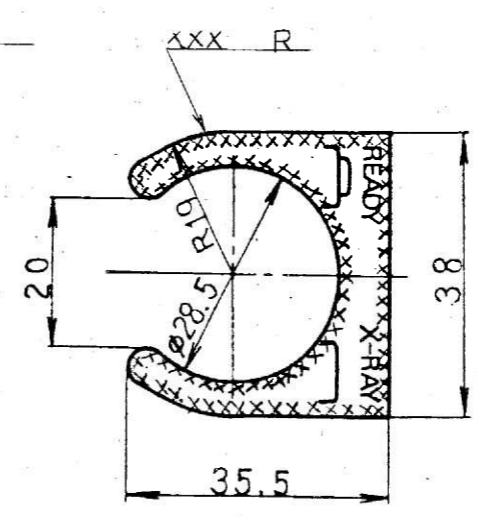
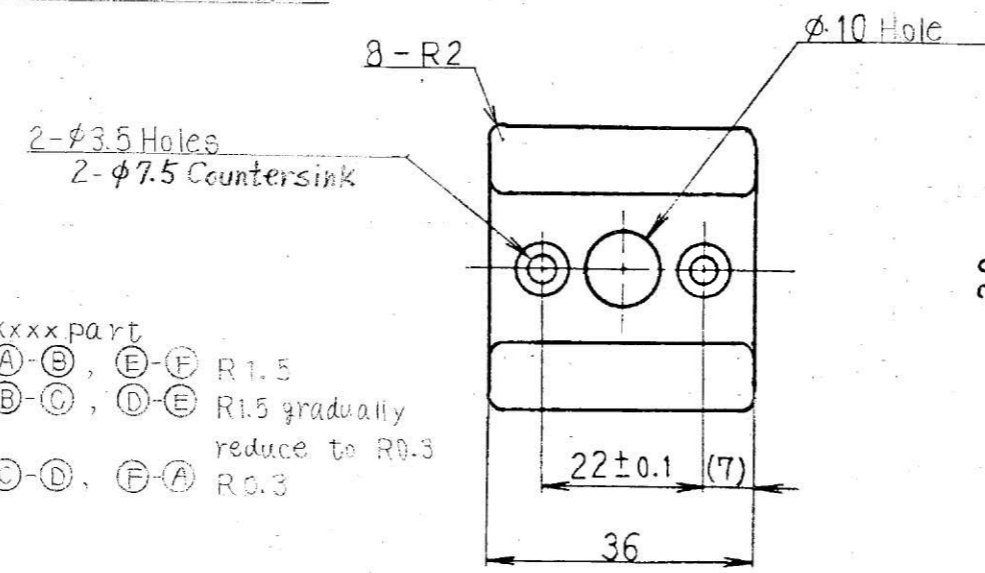
1. Connection of lead wire

terminal	C	A
OF1	BLACK	RED
OF2	GREEN	WHITE

2. Molding material: Alcohol proof.



Note:  
3. xxxx part  
 (A)-(B), (E)-(F) R1.5  
 (B)-(C), (D)-(E) R1.5 gradually reduce to R0.3  
 (C)-(D), (F)-(A) R0.3



				MATERIAL	FINISH			SCALE	TYPE C 2 U PUSH BUTTON SWITCH OUTLINE DRAWING
				TOLERANCES UNLESS SPECIFIED ± 0.8 mm	DESIGNED 12 Jul '86	CHECKED	APPROVED 12 Jul '86	1/1	
SYM	DATE	E/C CONTENTS	E/C NO.	SIGN				3RD ANGLE	
B1	99.09.22		#1990315	Hirata				SHEET	
B	96.2.21	PT CHANGE	#M2960718	M. Y.				NO.	
									DRWG NO. 03603 45-2 B1
									DESIGNED FOR