

SPECIFICATION

No. ISA2424B

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Written by R.Guo

TWS($\phi 25$) SERIES

PUSHBUTTON SWITCH

TYPE A△GS3 □□ N ※

Operation type — (△) — Button color — (※)

— (□□) — Contact arrangement

1. Applicable standard

JIS C 8201-5-1
IEC60947-5-1
EN 60947-5-1 (TUV Approval)
UL508 (UL Listing)
CSA C22.2 No.14 (CSA Certified)
GB/T14048.5(CCC Certification)

2. Operating conditions

- (1) Ambient temperature -25 to +50°C (no freezing)
(2) Relative humidity 45 to 85% (no condensation)
(3) Storage temperature -40 to +80°C(no freezing)

3. Ratings

- (1) Rated insulation voltage 600V
(2) Thermal current 10A
(3) Rated voltage and rated current

Rated operating voltage		24V	48V	50V	110V	220V	440V	
Rated operating current	A	Resistive load (AC-12)	10A	—	10A	10A	6A	2A
	C	Inductive load (AC-15)	10A	—	7A	5A	3A	1A
	D	Resistive load (DC-12)	10A	5A	—	2.2A	1.1A	—
	C	Inductive load (DC-13)	5A	2A	—	1.1A	0.6A	—

Note) The operating current is classified according to the JIS C 8201-5-1 making and breaking current capacities.

- (4) Minimum applicable load (reference value) 3V AC/DC, 5mA

4. Constructions

- (1) Outside view See attached sheet
(2) Degree of protection
(a) Operation units (panel front side) IP65
(b) Contact block IP20
(3) Operation type — (△) Momentary (B), Alternate (O)
(4) Button style $\phi 35$ Mushroom with full shroud
(5) Contact arrangement — (□□) 1a(10), 1b(01), 1a-1b(11), 2a(20), 2b(02), 2a-2b (22), 4a (40), 4b (04), 1a-3b (13), 3a-1b (31), 3a (30), 3b (03), 1a-2b (12), 2a-1b (21)
(6) Button color —(※) Black(B),Green(G),Red(R),Yellow(Y),Blue(S), White(W)
(7) Terminal style M3.5 terminal screw +/- screw head

(8) Applicable wire / Recommended tightening torque

Applicable wire		Maximum number of installed	Recommended tightening torque (N·m)
Solid wire	ϕ 0.5~1.6mm (AWG14~22)	2	1.0~1.3
	ϕ 1.7~2.0mm (AWG12)	1	1.2~1.3
Strand wire	0.3~2.0mm ² (AWG14~22)	2	1.0~1.3
	2.1~3.5 mm ² (AWG12)	1	1.2~1.3

- (9) Panel thickness 0.8 to 6mm
 (10) Panel cut-out ϕ 25.5^{+0.5}mm

5. Characteristics

- (1) Contact resistance 50m Ω maximum (initial value)
 (2) Insulation resistance 100M Ω minimum (measured with a 500V DC megger)
 (3) Dielectric strength 2,500V AC, 1minute
 (4) Vibration resistance
 (a) Operating extremes Frequency 5 to 55Hz, Amplitude 0.5mm
 (b) Damage limits Frequency 30Hz, Amplitude 1.5mm
 (5) Shock resistance
 (a) Operating extremes 100 m/s²
 (b) Damage limits 1,000 m/s²

6. Life

- (1) Mechanical life (without load)
 (a) Momentary 5,000,000 operation minimum
 (b) Alternate 500,000 operation minimum (3,4contacts : 250,000 operation minimum)
 (2) Electrical life (Load condition 220V AC/3A(AC-15))
 (a) Momentary 500,000 operation minimum
 (Operating frequency: 1,800 operations/hour maximum Duty Rate: 40%)
 (b) Alternate 500,000 operation minimum (3,4contacts : 250,000 operation minimum)
 (Operating frequency: 900 operations/hour maximum Duty Rate: 40%)