

SPECIFICATION

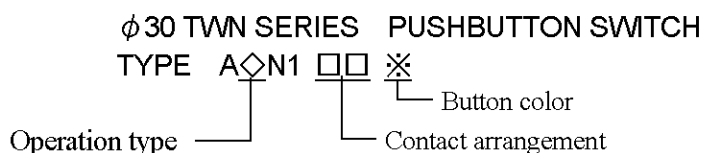
No. ISA4165B

Date. November 30,2023

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1. Applicable standard
- JIS C8201-5-1
 - IEC60947-5-1
 - EN60647-5-1 (TUV Rheinland Certified)
 - UL508 (UL Listing)
 - CSA C22.2 (CSA Certified)
 - GB/T14048.5 (CCC Certified)

2. Operating conditions
- (1) Ambient temperature -25 to +70°C (no freezing)
 - (2) Relative humidity 45 to 85% (no condensation)
 - (3) Storage temperature -40 to +80°C (no freezing)

3. Ratings
- Rated insulation voltage 600V
 - (1) Thermal current 10A
 - (2) 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.

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

4. Constructions
- (1) Outside view See attached sheet
 - (2) Operation type— (◇) Momentary (B), Alternate (O)
 - (3) Degree of protection
 - (a) Operation units (panel front side) IP65
 - (b) Contact block IP20
 - (4) Contact arrangement— (□□) 1a(10),1b(01),1a-1b(11),2a(20),2b(02),3a(30),3b(03),2a-1b(21), 1a-2b (12), 4a (40), 4b (04), 2a-2b (22), 3a-1b (31), 1a-3b (13)
 - (5) Button style Flush
 - (6) Button color (Bright type)—(※) 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 7.5mm

(10) Panel cut-out ϕ 30.5^{+0.5}mm

5. Characteristics

(1) Contact resistance 50 m 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 55 Hz, 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 (rated load)

(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%