RT200 Series Single-axis Industrial Joystick

Product Features

- Single axis control;
- Potentiometer or Hall effect sensor;
- Available with various shape mulitfunction grips;
- Mechanical spring-return to center or Friction-hold operation;
- Excellent analog proportional control output or switch signal output;
- Easy to install, flexible operation, uniform texture, maintenance-free;
- CE approved, RoHS 2011/65/EU, Annex II, including (EU) 2015/863 compliant.

Application

RunnTech 200 series industrial single-axis joystick controller is mainly used in hydraulic proportional control, variable frequency motor control, remote control or electro-hydraulic applications such as Rotary table (drilling rig), Crane, Aerial work platforms, Forklift trucks, Mobile hydraulics, Shield tunneling machine, Hoist, Marine, Construction machinery, Civil engineering, Military vehicles, Cabin vehicles, Military robotics, Precision machine tools, Material handling equipment, etc.

Technical Information

Environment Parameter		
Storage Temperature	-50°C...+80°C	
Operating Temperature	-40°C...+80°C	
Protection Grade	IP64	
Vibration	Amplitude±3g, Frequency: 10Hz-200Hz	
Impact	20g, 6ms, Semi-sinusoidal	
EMC Anti-interference Rank	100V/m, 30MHz to 1GHz, 80% sine-wave modulation, meet EN50082-2 (1995) standard	
EMC Emission Rank	Rank B, 150KHz to 30MHz, meet EN50081-2 (1993) standard	
ESD Anti-interference Rank	Rank 4, 8KV contact discharge, 15KV air discharge, meet IEC61000-4-2 standard	
Mechanical Parameter		
Mechanical Angle	Potentiometer: ±32°, Hall sensor: ±20°	
Operating Torque	5N (50N max)	
Mechanical Life	5 million	
Mechanical Error	± 0.5°	
Electrical Parameter		
Hall Sensor	Power Supply Voltage	5±0.5V DC
	Power Supply Current Consumption	6.5mA/hall sensor

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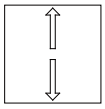
Hall Sensor	Resolution Ratio	infinite
	Maximum Voltage	15VDC
	Reversed Polarity Maximum Voltage	14.5VDC
	Load Resistance	5KΩ
	Median Voltage (no-load)	48 - 52%Vs
Potentiometer	Power Supply Voltage	DC24V
	Power Supply Current	<20mA
	Resolution Ratio	infinite
	Resistance (10%)	5KΩ and 10KΩ
	Electrical Angle	±32°
	Output Voltage Range (relative voltage)	0...100%; 10...90%
	Median Voltage	48%...52%
	Potentiometer Maximum Load Voltage	32VDC
	Maximum Power Consumption (25°C)	0.25W
	Switch Direction	switch position ±3°

Product Configuration

No.	Item	Content	
1	Serial Number	RT200 series single-axis joystick controller	
2	Operation Mode	**T** - spring return **TS** - spring return + zero interlock **M** - friction hold **MS** - friction hold + zero interlock	
3	Limiter Plate	 **1** - Y axis (default)	
4	Electrical Output Form	Hall Sensor	**HV1**: DC 5V, 0...2.5...5V (rail to rail)
			HV2: DC 5V, 0.5...2.5...4.5V
			HV3: DC 5V, 1.0...2.5...4.0V
			HV4: DC 5V, 1.25...2.5...3.75V
		Potentiometer	**P1**: Simple 2 directions output (potentiometer with dead zone)
			P2: Simple 1 direction output (potentiometer without dead zone)
			V1: DC24V, -10V...0...+10V (voltage output)
			V2: DC24V, +10V...0...+10V (voltage output)
			V3: DC24V, -5V...0...+5V (voltage output)
			V4: DC24V, +5V...0...+5V (voltage output)
			V5: DC24V, 0...+10V (voltage output)
			V6: DC24V, 0...+5V (voltage output)
			I1: 4 wire 4mA...12mA...20mA (current output)
			I2: 4 wire 20mA...4mA...20mA (current output)

5	Potentiometer Type	**1K**, **2K**, **5K**, **10K**, **20K** or **H** (Hall sensor)
6	Quantity of Switch Signal	**01**, **02** or **03** (the quantity of directional switch signal in each axis)
7	Switch Signal Closed Position	Refer to Table 4-3 **Directional Switch Signal Closed Position** (Page 05)
8	Handle Grip Style	**HD1**, **HD2**, **HD4**, **HD5**, **HD6**, **HD7**, **HD8**, **HD80** and **T** Shape (Page 04)
9	Mounting Dimensions	**M1**: 56×56, central hole 63 **M2**: 85×85, central hole 63 **M3**: 130×110, central hole 63

RT200 - TS - 1 - P1 (10K) - 02 (89) - HD6 - M1

① serial number
② operation mode
③ limiter plate
④ electrical output form
⑤ potentiometer type
⑥ quantity of switch signal
⑦ switch signal closed position
⑧ handle grip style
⑨ mounting dimension

Product Installation

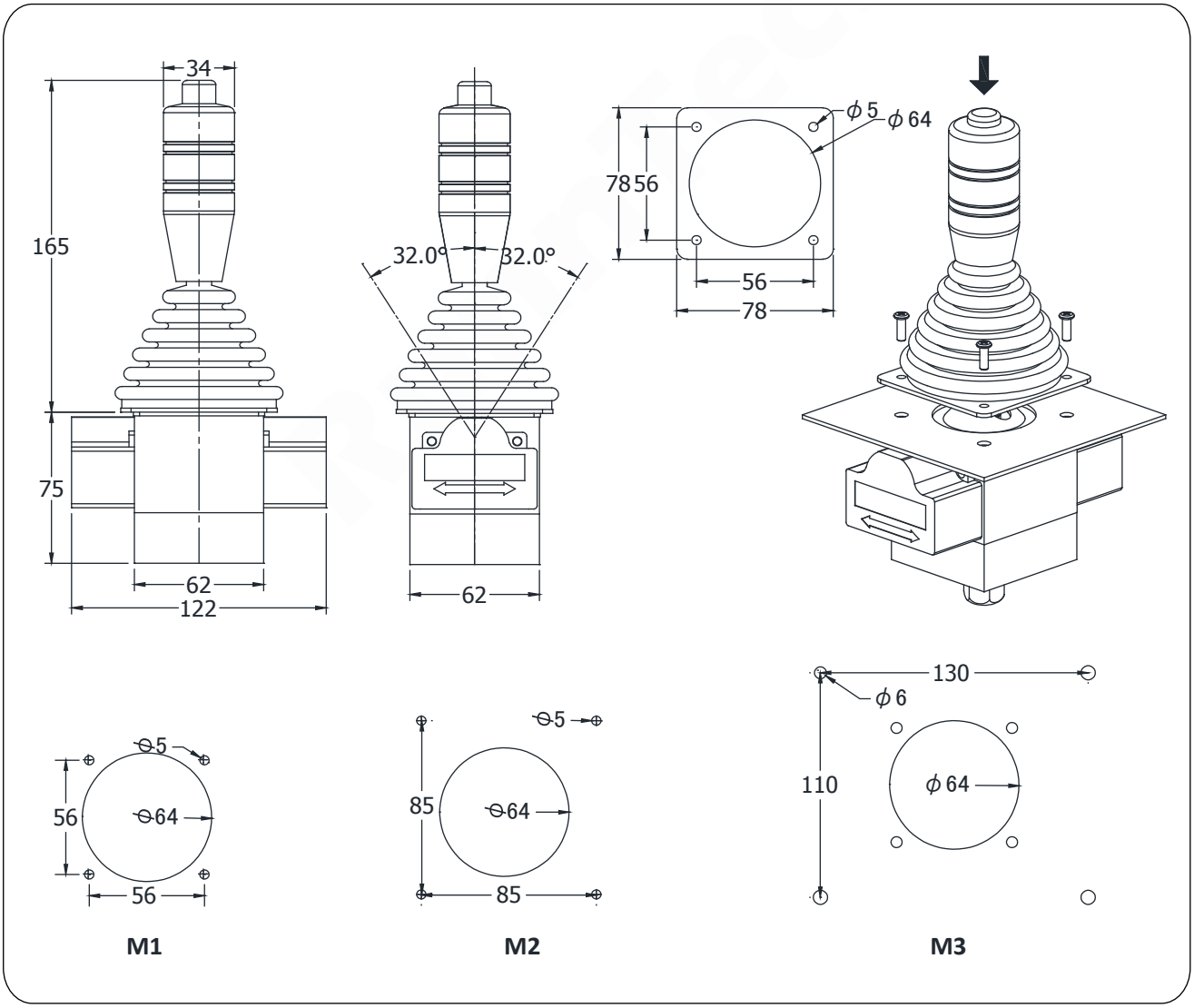


Table 1-1 Handle Grip Style

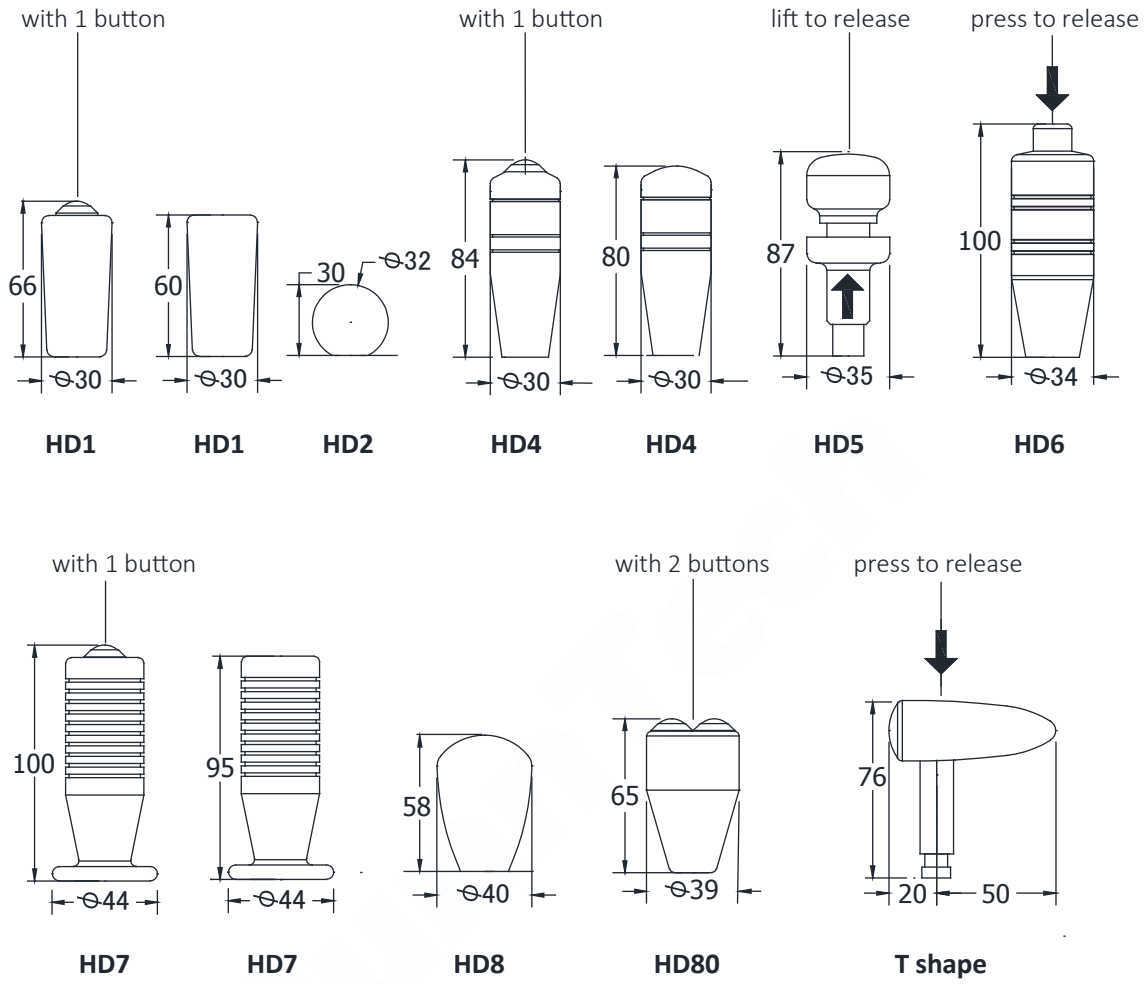


Table 2-1 Accessories

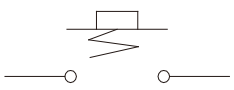
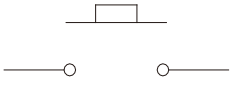
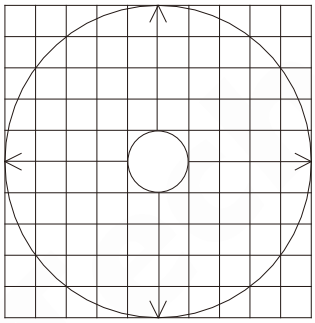
No.	Type	Description	Parameter	Remark
1	**BT**	momentary button 	24V2A	button color: Red - **R** Blue - **BU** Black - **BK** Yellow - **Y** Green - **G** White - **W**
2	**BS**	maintained button 	24V2A	button color: Red - **R** Blue - **BU** Yellow - **Y** Green - **G**

Table 4-3 Directional Switch Signal Closed Position

Entity on behalf of the switch is closed



Analog output refer to the following figure

Electrical Output Form	Hall Sensor	**HV1**: DC 5V, 0...2.5...5V (rail to rail)
		HV2: DC 5V, 0.5...2.5...4.5V
		HV3: DC 5V, 1.0...2.5...4.0V
		HV4: DC 5V, 1.25...2.5...3.75V
	Potentiometer	**P1**: Simple 2 directions output (potentiometer with dead zone)
		P2: Simple 1 direction output (potentiometer without dead zone)
		V1: DC24V, -10V...0...+10V (voltage output)
		V2: DC24V, +10V...0...+10V (voltage output)
		V3: DC24V, -5V...0...+5V (voltage output)
		V4: DC24V, +5V...0...+5V (voltage output)
		V5: DC24V, 0...+10V (voltage output)
		V6: DC24V, 0...+5V (voltage output)
		I1: 4 wire 4mA...12mA...20mA (current output)
		I2: 4 wire 20mA...4mA...20mA (current output)