

## MKF-JS87

Mate Industrial Joystick, Hall / Potentiometer effect, Dual axis, Panel Mounted



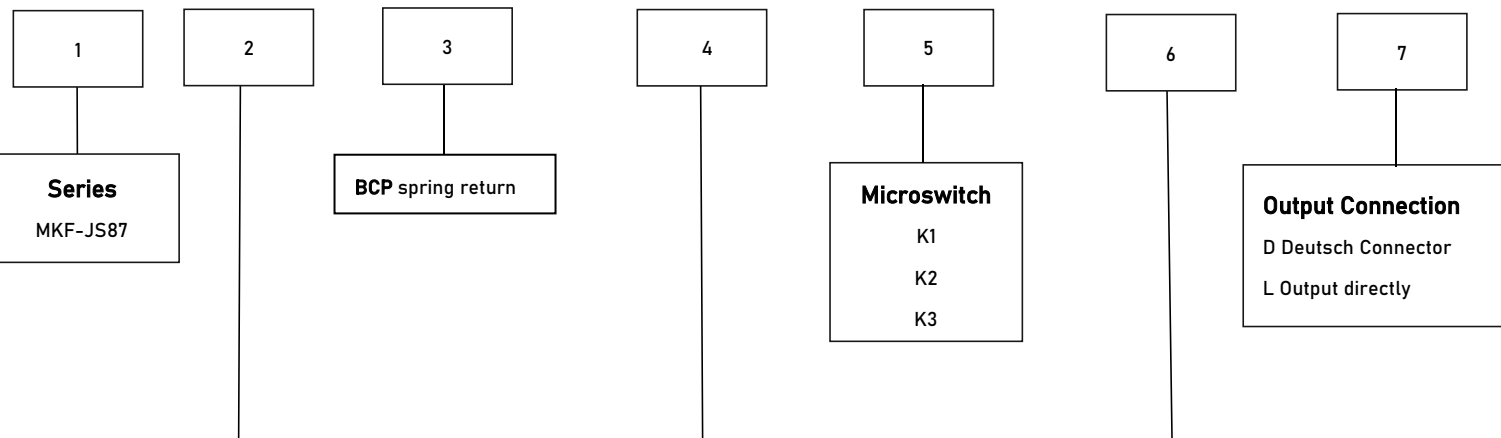
### APPLICATION

Typical application on Cranes, loaders. Forklifts, excavators, access platform, tractors, harvesters, and so on.

### DESCRIPTION

- Same as liquid control feeling
- Hall sensor with vibration feedback
- Spring return or friction positioning, single or double axis control
- Can choose straight, cross, square, T shape, Z shape operation
- Easy installation, flexible operation, feel uniform, long life, maintenance-free

## PARAMETERS



### Operating Limiter

- 1X (X Single axis)
- 1Y (Y Single axis)
- 2P (dual-axis for cross direction)
- 2C (dual-axis for any direction)
- 3T (three-axis, HALL effect ONLY)

### Output signal

#### Potentiometer (power supply< 36Vdc)

P05A 5KΩ potentiometer

P10A 10KΩ potentiometer

#### Hall (Power supply 5Vdc , or 9~36Vdc)

H01 each axis of single hall, 0.5~2.5~4.5Vdc output

H04 axis of single hall, 1.0~2.5~4.0Vdc output

2H01 each axis of redundant hall, 0.5~2.5~4.5Vdc output

2H04 each axis of redundant hall, 1.0~2.5~4.0Vdc output

#### With electronic amplifier

WV21 18~36Vdc power supply , -10V~0V~ + 10V output

WV22 18~36Vdc power supply , +10V~ 0V~ +10V output

WV23 18~36Vdc power supply , -5V~0V~ +5V output

WV24 18~36Vdc power supply , +5V~0V~ + 5V output

WI21 9~36Vdc power supply , 2-wire system 4mA~12mA~20mA output

WI22 9~36Vdc power supply, 2-wire system 20mA~4mA~20mA output

#### CAN BUS (9~36Vdc power supply)

CAN2.0B

CAN OPEN

CAN J1939

NA Without analog signal output

### Handle

- SDH1
- SHD4B with 1 push button
- SHD8B with 1 push button
- SHD8
- SG13B
- SB34
- SG25
- SUGN
- SUGA
- SG51
- S8
- SB6
- SG21
- SG9
- S9

## Electrical data

### Potentiometer

|                       |                                     |
|-----------------------|-------------------------------------|
| Power supply          | <36Vdc                              |
| Resistance            | 5K $\Omega$ , 10K $\Omega$          |
| Electrical angle      | $\pm 30^\circ$ (potentiometer type) |
| Center voltage        | 48%~52%Vdc (Power supply)           |
| Center tap angle      | $\pm 2.5^\circ$                     |
| On-load voltage (max) | 32Vdc                               |
| Power dissipation     | 0.25W ( 25 $^\circ$ )               |

### Hall

|                                    |                       |
|------------------------------------|-----------------------|
| Power supply                       | 5 $\pm$ 0.5Vdc        |
| Supply current                     | <11mA (Each of hall ) |
| Maximum allowable overload voltage | 20Vdc                 |
| Reverse maximum allowable voltage  | -10Vdc                |
| Output linearity tolerance         | < $\pm 4$ V           |

### Directional switch

|                    |                             |
|--------------------|-----------------------------|
| Load capacity      | 2mA@30Vdc (Resistance load) |
| Breakout angle     | $\pm 3^\circ \sim 5^\circ$  |
| Contact resistance | <200 $\Omega$               |

### With electronic amplifier

|                           |                              |
|---------------------------|------------------------------|
| Power supply              | 18~36Vdc (WV21~WV24) 9~36Vdc |
| Power current consumption | <20mA                        |
| Maximum output current    | 10mA                         |

### CAN BUS

|              |                  |
|--------------|------------------|
| Power supply | 9~36Vdc          |
| CAN Version  | CAN 2.0B         |
| Protocol     | J1939            |
| Connector    | 6p-pin (Deutsch) |

### Microswitch

|                       |                                                              |
|-----------------------|--------------------------------------------------------------|
| Load capacity         | 4A@30Vdc (Resistance load)                                   |
| Expecting life        | 1 million times (Mechanical) 200 thousand times (Electrical) |
| Insulation resistance | >100M $\Omega$                                               |
| Breakout angle        | $\pm 3^\circ \sim 5^\circ$                                   |

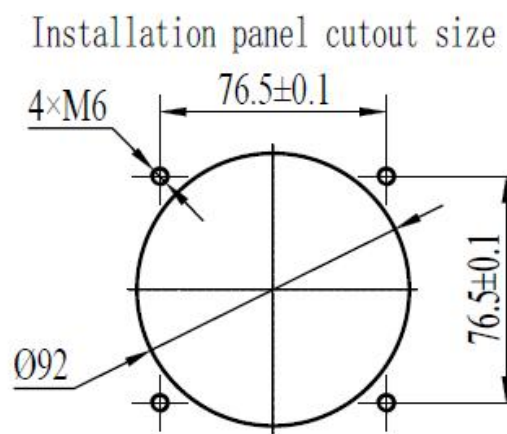
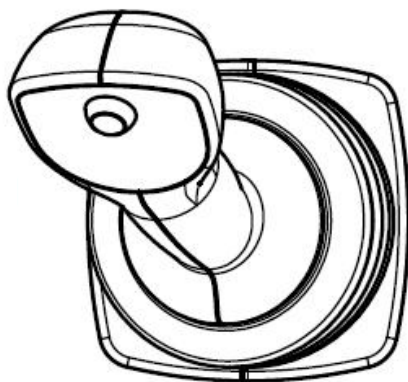
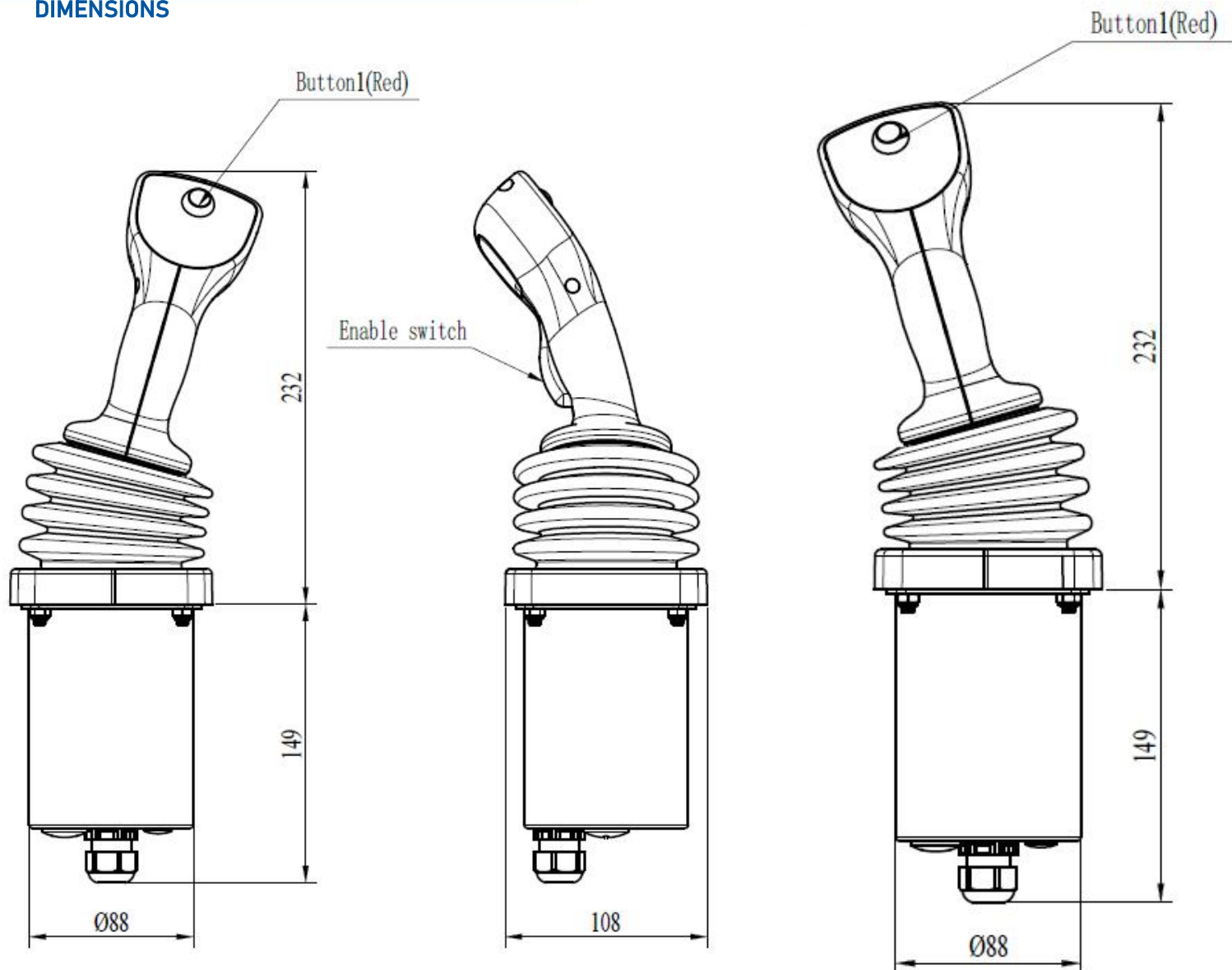
### Mechanical features

|                         |                                                                            |
|-------------------------|----------------------------------------------------------------------------|
| Travel angle            | $\pm 30^{\circ}$ (potentiometer type), $\pm 20^{\circ}$ (hall effect type) |
| Operating type          | Spring return                                                              |
| Breakout force          | 7N                                                                         |
| Operating force(max)    | 16N                                                                        |
| Maximum allowable force | >300N                                                                      |
| Expecting life          | >2 million cycles (Potentiometer), >5 million cycles (Hall effect)         |
| Weight                  | 1kg (Without handle)                                                       |

### Environmental data

|                       |                         |
|-----------------------|-------------------------|
| Operating Temperature | -30°C~+70°C             |
| Storage Temperature   | -40°C~+85°C             |
| Protection level      | IP54 (Above the flange) |

## DIMENSIONS



## HANDLE OPTIONAL



## SWITCH OPTIONAL

