Bit Socket Tray Std

4, 8 and 12 Bit Holder Models

Compatible with MDCV1 and MDCV2

Bit Socket Tray Operation Manual

Bit socket tray (4pcs / 8pcs / 12 pcs)

1. Specification

Number of sockets	4, 8 or 12 sockets with sensors (modification available)
Type of sensors	Magnet inductive sensor, 24V, 3-wire, PNP or NPN
Connection of sensors	Terminal block with fast connection (push/release type)
Number of LED	4, 8 or 12 selection lamps, power, alarm and running
Connection of Lamps	24V, 2-wire terminal block with fast connection
Selection dip switches	1. Master or Slave 2. Binary or direct logic for Selection Inputs and Outputs 3. Binary or binary+1 logic for Selection Inputs 4. Binary or binary+1 logic for Selection Outputs 5. Mode (reserved, no use) 6. Beep sound off
Input power	24VDC, 1A
Number of sensor modification	Sensor installation is available by the customer. Not used position should always be activated by connecting the signal wire as below ; NPN sensor : Sensor out with negative (-24V) PNP sensor : Sensor out with positive (+24V)
Hole size of bit holder (Factory setting)	All positions with bit holder hole Ø 7.5 mm
I/O	25Pin D-Sub female connector 8 Inputs for indicating 8 sockets (direct or binary) 8 Outputs for selecting preset # (direct or binary) 1 analog signal Output (0 – 5V) 24V DC power output (Max 0.5A)

2. Layout of standard packing

Selection Dip switch 25P I/O Power 24VDC

LED
(Power, Alarm, Run)

LED (Position)

Bit holder

Dimension : 220(w) x 120(d) x 55(h) mm

Product Includes:

310092 Bit socket tray-4 / 4pcs bit holder for Ø 7.5mm (310107)

310093 Bit socket tray-8 / 8pcs bit holder for Ø 7.5mm (310107)

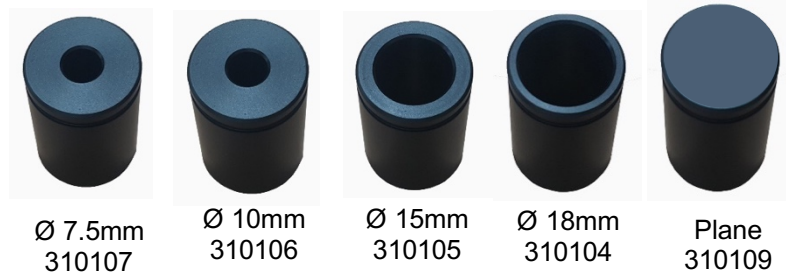310194 Bit socket tray-12 / 12 pcs bit holder for Ø 7.5mm (310107)

with

UL 120V Power Cable

SMPS Adapter 24VDC 1A (310102)

NOTE: for CE 230V Power Cable, order 310110 (not Included)

For different sizes of bit holders (not included), please order:

Ø 7.5mm
310107

Ø 10mm
310106

Ø 15mm
310105

Ø 18mm
310104

Plane
310109

Communication cables MDC to Bit Socket Tray (Not Included):

1) **Cable 25P I/O (M-M) 3 Meters Item 310112**

2) **Cable 25P I/O (M-M) 5 Meters Item 310115**
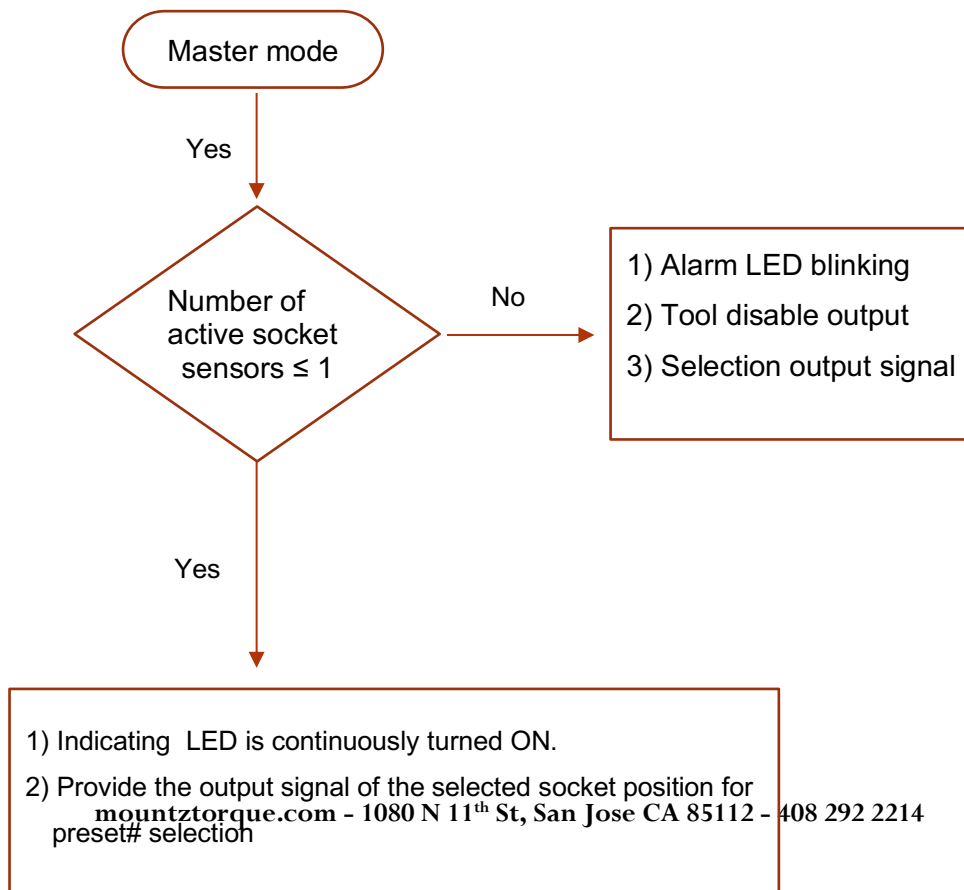
3. Operation

3.1 Master mode

A preset # of the MD tool or <u>other tool</u> is automatically by the I/O when the bit is selected on the bit socket tray.

When one bit is selected, the corresponding output signals are provided to the tool controller in order to select the preset #.

Otherwise the socket tray will provide the tool disable

Master mode

Yes

Number of active socket sensors ≤ 1

No

1) Alarm LED blinking

2) Tool disable output

3) Selection output signal

Yes

1) Indicating LED is continuously turned ON.

2) Provide the output signal of the selected socket position for preset# selection

3.2 Slave mode

DPC-Touch or other device that provide the output signal of preset program no. or torque setting no. can guide operator to select one of the 4 or 8 sockets through LED lighting. The tool should provide the output signal for the selected preset # to the bit socket tray. The bit socket tray indicate the corresponding LED. When the wrong bit is selected, it provides Alram LED and output signal.

```
                    ┌─────────────────────┐
                    │     Slave mode      │
                    └─────────────────────┘
                               │ Yes
                               ▼
                          ◇ Selection          No     ┌──────────────────────┐
                            input received  ─────────▶ │ Tool disable output  │
                          ◇                            └──────────────────────┘
                               │ Yes
                               ▼
                          ◇ Selection input    No     ┌──────────────────────────┐
                            within range    ─────────▶ │ - Alarm LED blinking     │
                          ◇                            │ - Tool disable output    │
                               │ Yes                   └──────────────────────────┘
                               ▼
                    ┌─────────────────────┐
                    │  Selection LED      │
                    │  starts blinking    │
                    └─────────────────────┘
                               │ Yes
                               ▼
                          ◇ Corresponding      No     ┌───────────────────────────────────┐
                            socket is      ─────────▶ │ - Selection LED keeps blinking    │
                            selected                  │ - Selected socket LED is turned ON│
                          ◇                            │ - Alarm output (tool disable)     │
                               │ Yes                   │ - Alarm LED blinking              │
                               ▼                       └───────────────────────────────────┘
                    ┌─────────────────────────┐
                    │ - Corresponding LED     │
                    │ continuously ON         │
                    │ - Selection output signal│
                    └─────────────────────────┘
```

3.3 Settings by switch selection

The operation mode, I/O and beep sound can be managed by the switch selection.

Dip switch	Description	OFF	ON	Factory setting
1	Master or Slave	Master	Slave	OFF
2	I/O	Binary	Direct	OFF
3.	Input binary	Binary	Binary+1	OFF
4	Output binary	Binary	Binary +1	OFF
5	No use (reserved)			
6	Beep sound	Off	On	OFF

OFF

↑
↓

ON

3.4 Magnet sensor to detect steel bit

There are sensors at the bottom of the bit holders. The sensor activates with the steel material. The sensor cannot be activated with the too much thin diameter of the bit. And the bit should be located at the closed to the sensor

OK   NG

Bit (steel)

Bit holder

Magnet sensor
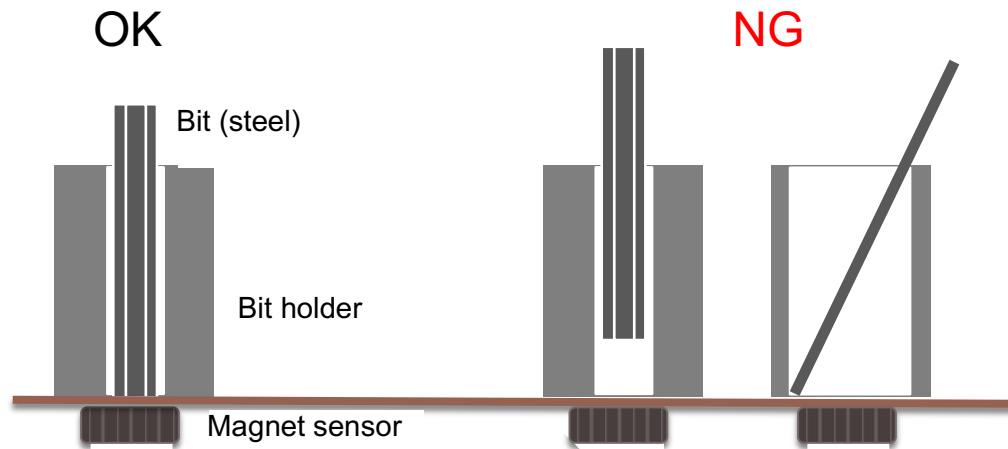
4. 25P I/O

4.1 I/O details

Connector : 25P D-sub female socket

Pin No	Direct	Binary, Binary+1
1	Selection in1	Selection in1
2	Selection in2	Selection in2
3	Selection in3	Selection in3
4	Selection in4	Selection in4(for binary)
5	Selection in5	X
6	Selection in6	X
7	Selection in7	X
8	Selection in8	X
9	Selection out1	Selection out1
10	Selection out2	Selection out2
11	Selection out3	Selection out3
12	Selection out4	Selection out4(for binary)
13	Selection out5	X
14	Selection out6	X
15	Selection out7	X
16	Selection out8	x
17	Analog output signal 0 – 5V	Analog output signal 0 – 5V
18	Tool Enable	Tool Enable
19	Alarm (Tool Disable)	Alarm (Tool Disable)
20	GND	GND
21	24V	24V
23	COM IN	COM IN
24	COM OUT	COM OUT

Pin no. 17 provides the analog voltage output with pin no. 20 (GND) according to the sensor activation. The voltage details are as below ;

Sensor 1 200 mV
Sensor 2 300 mV
Sensor 3 400 mV
Sensor 4 500 mV
Sensor 5 600 mV
Sensor 6 700 mV
Sensor 7 800 mV
Sensor 8 900 mV

If multiple sensors are active, then values should be summed up.
Example: Sensor 1 + Sensor 3 + Sensor 8 = 200+400+900 = 1500 mV

4.2 Binary coding with 3 pins I/O

Preset #	In/Out 3	In/Out 2	In/Out 1
1	0	0	0
2	0	0	1
3	0	1	0
4	0	1	1
5	1	0	0
6	1	0	1
7	1	1	0
8	1	1	1

4.3 Binary +1 coding with 3 pins I/O

| Preset #	In/Out 4	In/Out 3	In/Out 2	In/Out 1
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	1

5. Cable for connecting MDC (option)

Connecting cable pin assignment for MDC controller

Pin No	Bit socket tray (Binary+1)	MDC controller	Pin No
1	Selection in1	Preset select OUT 1	10
2	Selection in2	Preset select OUT 2	11
3	Selection in3	Preset select OUT 3	12
4	X		
5	X		
6	X		
7	X		
8	X		
9	Selection out1	Preset select IN 1	1
10	Selection out2	Preset select IN 2	2
11	Selection out3	Preset select IN 3	3
12	X		
13	X		
14	X		
15	X		
16	X		
17	X		
18	X		
19	Alarm (Tool Disable)	Driver Lock	6
20	GND (24V-)	Out COM	21
21	24V	In COM	22
23	COM IN		
24	COM OUT		

25P D-sub cable for MDC to Socket tray, 3m long (310112)

25P D-sub cable for MDC to Socket tray, 5m long (310115)
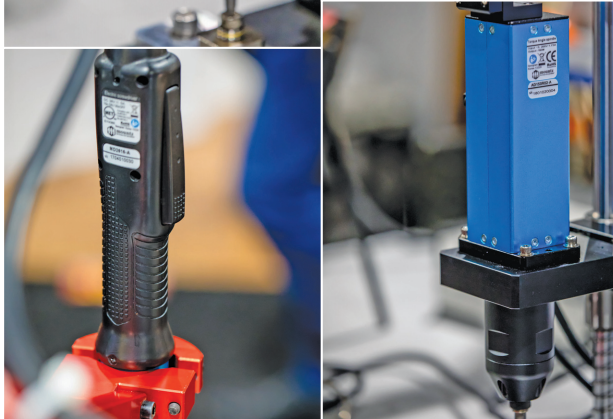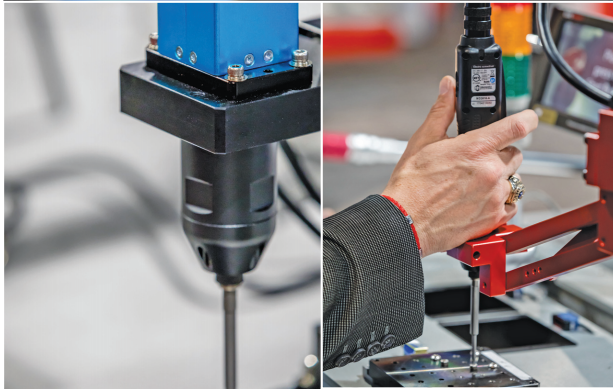
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