Type ZDY-ZX Object Identification Cross

Short description

- Aluminum-alloy IP65 digital single point load cell
- Colorless anodized
- Aluminium cross platform
- Platform size: 144 x 400 mm
- RS422 output signal

Available models

Capacity	Accuracy	Full article description
10kg	C3	ZDY-Z2/Z7/Z8-10kg Cross
20kg	C3	ZDY-Z2/Z7/Z8-20kg Cross
30kg	C3	ZDY-Z2/Z7/Z8-30kg Cross
40kg	C3	ZDY-Z2/Z7/Z8-40kg Cross

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Technical specifications ZDY-Z2

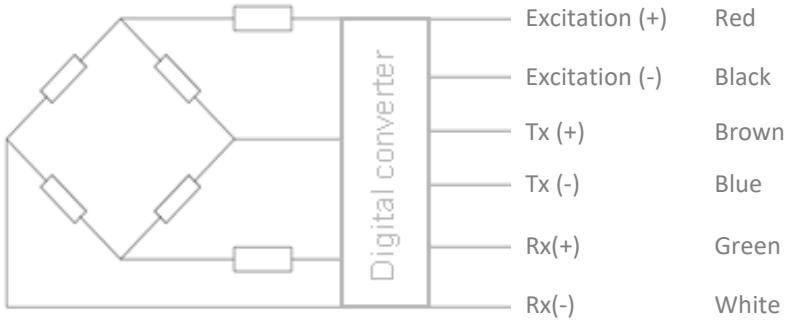
Accuracy class		C3			
Maximum capacity (E_{max})	kg	10	20	30	40
min. LC verification interval (V_{min})	g	25	50	75	100
Output minimum division value	g	1			
Display resolution	g	1/2/5 (Optional)			
Temperature effect on zero	%FS/10°C	≤± 0.0160			
Non-Linearity	%FS	≤± 0.0166			
Hysteresis	%FS	≤± 0.0166			
Resolution of measuring signal	Bits	24			
Signal conversion frequency	Hz	10			
Response frequency	ms	100			
Baud Rate	Baud	115200			
Interface		RS422 (Six wires – Full Duplex)			
Output format		ASCII			
Internal storage		Flash 32K, EEROM 128 bytes			
Maximum number of bus members		24			
Compensated temperature	°C	-10 ~ +40			
Operating temperature	°C	-10 ~ +40			
Storage temperature	°C	-20 ~ +70			
Excitation, recommended voltage	VDC	12 ± 0.5			
Excitation maximum	VDC	15			
Rated output current	mA	50			
Minimum dead load	Of E_{max}	0%			
Safe overload	of E_{max}	120 %			
Ultimate overload	of E_{max}	150 %			
Element material		Aluminium			
Ingress Protection (acc. to EN 60529)		IP65			
Recommended torque on fixation bolts	Nm	< 30kg: 6		>30kg: 10	

Wiring

Features:

Shielded, 6 conductor cable
Cable diameter: Ø5.0mm
Standard cable length: 1m (maximum cable length 300m)
Shield not connected to element
Cable jacket in PVC

6-wire diagram



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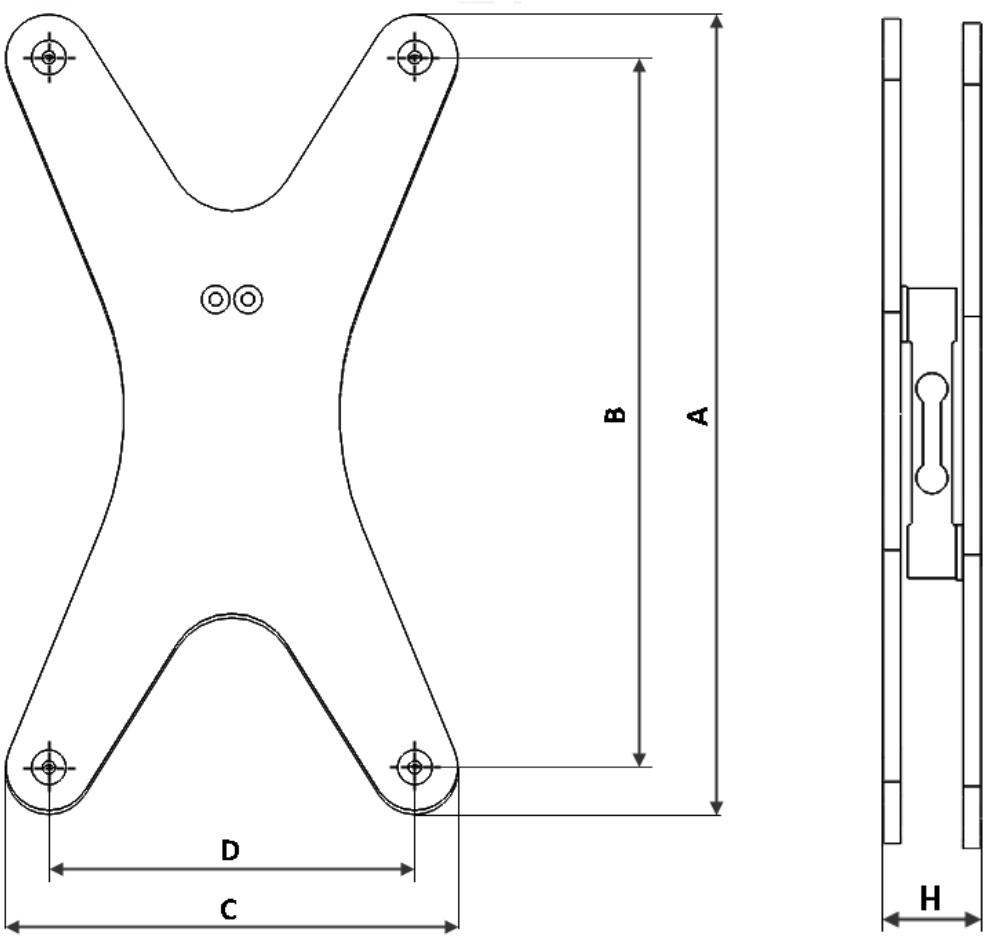
Dimensions in mm



Dimension Cross Model	A	B	C	D	H
Z2	370	340	114	84	44
Z7	330	300	245	215	44
Z8	280	250	180	150	44

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Communications Protocol

1. Command instructions

1.1 Communication command convention

I Basic convention:

Baud rate **115200** bps

Data bits **8**

Stop bit **1**

Check bit **N**

II Specific symbol:

Crlf: Stop bit (**0x0D 0x0A**) → :Command sent ←： Response return

III All commands must be sent by symbols.

IV The weighing unit replies when it receives an error command: 0x3F 0x0D 0x0A (ASCII： ?crlf)

1.2 Command content

I ADR Address (Address inquiry, setting)

Address range: 1 ~ 32 Factory default settings: 32

Address query command： **ADR?;**

Return: Two-byte ASCII code **+ crlf**

Address setting command: **ADRxx;**

Return: single byte ASCII code **+ crlf**

Address query example:

Inquire weighing unit address(take No.1 address as an example). Command process is shown as below:

ADR?; →

← **0x30 0x31 0x0D 0x0A** (ASCII： **01crlf**)

Address setting example:

Change the weighing unit address into 5. Command process is shown below:

ADR05; →

← **0x30 0x0D 0x0A** (ASCII： **0crlf**)

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II TAR (Tare)

Use Command TAR to remove the current measured value as tare weight (Tare).

Tare command: **TAR;**

Weighing unit return: Single-byte ASCII code + **crlf**

Tare example:

Tare one weighing unit. Commend process is shown as below:

TAR; →

← **0x30 0x0D 0x0A** (ASCII： **0crlf**)

III MSV(Measured Signal Value)

Output value range: ± 8388607 (Measured value is 3-byte signed number. The output value will be complement if the measured value is negative)

Measured value reading command： **MSV?;**

Return: 4-byte + **crlf**

Measured value query example:

Read the current measured value of weighing unit(take No. 15 weighing unit, measured value 500 as an example):

MSV?; →

← **0x0F 0x00 0x01 0xF4 0x0D 0x0A**

Address 15： **0x0F**

Measured value 500： 0x00 (high 8-bit) 0x01 (middle 8-bit) 0xF4 (low 8-bit)

Terminator: 0x0D 0x0A (CRLF)

IV Special instructions

When there is more than one unit on RS422 bus, you need to add addresses before the command if you need to communicate with one unit.

Example 1: Read No. 12 weighing unit measured value

Command format: **S12;MSV?;**

Note: If you need to poll multi load cells measured values, the polling interval should be more than 10ms.

Example 2: Tare No.2 weighing unit

Command format: **S02;TAR;**

Example 3: Change No.10 weighing unit address into 3

Command format: **S10;ADR03;**