



**Acecells Instrument(ZJ)Co.,Ltd.**

## Aluminum Single-Point Load Cell

### Special features

- OIML R60 approved
- NTEP HB44 approved
- Max. capacities: 5kg ~ 50kg
- Off center load compensated (OIML R76)
- Max. platform size: 300 x 350mm
- IP65 protection
- Aluminum construction

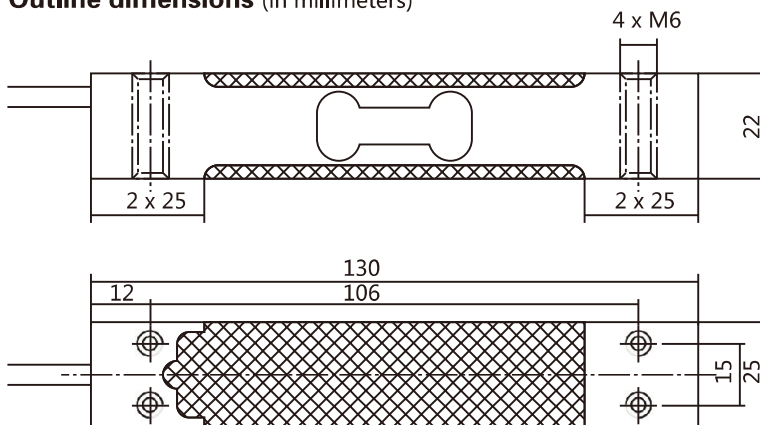


### Optional

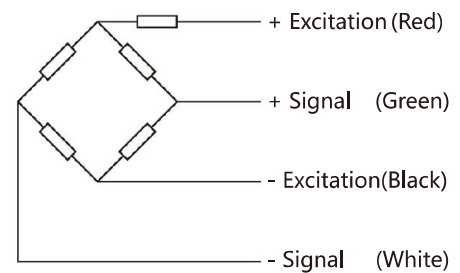
- Reduced minimum LC verification interval (Vmin) for MR and MI applications
- Reduced creep return for MI applications
- Different cable lengths

**Model WL1022**

### Outline dimensions (in millimeters)



### Wiring Schematic Diagram



## Aluminum Single-Point Load Cell

| Specifications   |                           |           |          |           |          |                           |
|--|---------------------------|-----------|----------|-----------|----------|---------------------------|
| Parameter  | Value                     |           |          |           |          | Units                     |
| Accuracy class   | C3、C3MR                   |           |          |           |          |                           |
| Maximum number of LC intervals (n <sub>max</sub> )         | 3000、2×3000               |           |          |           |          |                           |
| Maximum capacity (E <sub>max</sub> )                       | 5                         | 10        | 20       | 30        | 50       | kg                        |
| Min. LC verification interval (v <sub>min</sub> ) ( C3 )   | 1                         | 2         | 5        | 5         | 10       | g                         |
| Temp. effect on zero balance ( C3 )                        | ± 0.0028                  | ± 0.0028  | ± 0.0035 | ± 0.0023  | ± 0.0028 | % of E <sub>max</sub> /°C |
| Min. LC verification interval (v <sub>min</sub> ) ( C3MR ) | /                         | 1         | 2        | 2         | 5        | g                         |
| Temp. effect on zero balance ( C3MR )                      | /                         | ± 0.0014  | ± 0.0014 | ± 0.00093 | ± 0.0014 | % of E <sub>max</sub> /°C |
| Zero balance   | ± 0.1                     |           |          |           |          | mV/V                      |
| Rated output   | 2.0                       |           |          |           |          | mV/V                      |
| Rated output tolerance                                     | ± 0.2                     |           |          |           |          | mV/V                      |
| Temp. effect on rated output +20 ~ +40°C                   | ± 0.00175                 |           |          |           |          | % of AL/°C                |
| -10 ~ +20°C  | ± 0.00117                 |           |          |           |          |                           |
| Hysteresis error   | ± 0.0166                  |           |          |           |          | % of E <sub>max</sub>     |
| Non-linearity error  | ± 0.0166                  |           |          |           |          | % of E <sub>max</sub>     |
| Min. dead load output return                               | ± 0.0166                  |           |          |           |          | % of AL                   |
| Offer center load error ( OIML R76 3000e )                 | ± 0.0072                  | ± 0.0072  | ± 0.0061 | ± 0.0061  | ± 0.0061 | % of AL/cm                |
| Offer center load error ( OIML R76 2×3000e )               | /                         | ± 0.0036  | ± 0.0024 | ± 0.0024  | ± 0.0030 | % of AL/cm                |
| Input resistance   | 404 ± 15                  |           |          |           |          | Ω                         |
| Output resistance  | 350 ± 3                   |           |          |           |          | Ω                         |
| Insulation resistance @50VDC                               | > 2000                    |           |          |           |          | MΩ                        |
| Excitation voltage, recommended                            | 10                        |           |          |           |          | V AC/DC                   |
| Excitation voltage, maximum                                | 15                        |           |          |           |          | V AC/DC                   |
| Temperature compensation range                             | -10 to +40                |           |          |           |          | °C                        |
| Operating temperature range                                | -10 to +50                |           |          |           |          | °C                        |
| Safe storage temperature range                             | -25 to +70                |           |          |           |          | °C                        |
| Safe load limit  | 150                       |           |          |           |          | % of E <sub>max</sub>     |
| Ultimate load limit  | 300                       |           |          |           |          | % of E <sub>max</sub>     |
| Cable length   | 0.5 or 1.0                |           |          |           |          | m                         |
| Cable type   | 4-wire, PVC               |           |          |           |          |                           |
| Construction   | Aluminum                  |           |          |           |          |                           |
| Coating  | Silicone rubber over gage |           |          |           |          |                           |
| Protection class   | IP65                      |           |          |           |          |                           |
| Maximum platform size                                      | 250 x 300                 | 300 x 350 |          |           |          | mm                        |
| Recommended torque   | 10.0                      |           |          |           |          | N.m                       |

**Notes:**

The values for linearity, hysteresis and temp. effect on rated output are recommended values, the sum of these data meets the requirements according to OIML R60.

## Aluminum Single-Point Load Cell

| <b>Specifications</b>                                    |            |          |           |          |                           |
|--|------------|----------|-----------|----------|---------------------------|
| Parameter  | Value      |          |           |          | Units                     |
| Accuracy class   | C5、 C6     |          |           |          |                           |
| Maximum number of LC intervals (n <sub>max</sub> )       | 5000、 6000 |          |           |          |                           |
| Maximum capacity (E <sub>max</sub> )                     | 5          | 10       | 20        | 50       | kg                        |
| Min. LC verification interval (v <sub>min</sub> ) ( C5 ) | /          | 1        | 2         | /        | g                         |
| Temp. effect on zero balance ( C5 )                      | /          | 1        | 2         | /        | % of E <sub>max</sub> /°C |
| Min. LC verification interval (v <sub>min</sub> ) ( C6 ) | 0.5        | 1        | 2         | 5        | g                         |
| Temp. effect on zero balance ( C6 )                      | ± 0.0014   | ± 0.0014 | ± 0.0014  | ± 0.0014 | % of E <sub>max</sub> /°C |
| Zero balance   | ± 0.1      |          |           |          | mV/V                      |
| Rated output   | 2.0        |          |           |          | mV/V                      |
| Rated output tolerance                                   | ± 0.2      |          |           |          | mV/V                      |
| Temp. effect on rated output +20 ~ +40°C ( C5 )          | ± 0.00105  |          |           |          | % of AL/°C                |
| -10 ~ +20°C ( C5 )                                       | ± 0.00070  |          |           |          |                           |
| Temp. effect on rated output +20 ~ +40°C ( C6 )          | ± 0.00087  |          |           |          | % of AL/°C                |
| -10 ~ +20°C ( C6 )                                       | ± 0.00058  |          |           |          |                           |
| Hysteresis error   | ± 0.0083   |          |           |          | % of E <sub>max</sub>     |
| Non-linearity error                                      | ± 0.0083   |          |           |          | % of E <sub>max</sub>     |
| Min. dead load output return ( C5 )                      | ± 0.0100   |          |           |          | % of AL                   |
| Min. dead load output return ( C6 )                      | ± 0.0083   |          |           |          | % of AL                   |
| Offer center load error ( OIML R76 5000e )               | /          | ± 0.0043 | ± 0.0036  | /        | % of AL/cm                |
| Offer center load error ( OIML R76 6000e )               | ± 0.0036   | ± 0.0036 | ± 0.0030  | ± 0.0030 | % of AL/cm                |
| Cable length   | 0.5 or 1.0 |          |           |          | m                         |
| Maximum platform size                                    | 250 x 300  |          | 300 x 350 |          | mm                        |
| Recommended torque                                       | 10.0       |          |           |          | N.m                       |

**Notes:**

The values for linearity, hysteresis and temp. effect on rated output are recommended values, the sum of these data meets the requirements according to OIML R60.

## Aluminum Single-Point Load Cell

| <b>Specifications</b>                              |            |           |           |          |                           |
|--|------------|-----------|-----------|----------|---------------------------|
| Parameter  | Value      |           |           |          | Units                     |
| Accuracy class                                     | C3MI       |           |           |          |                           |
| Maximum number of LC intervals (n <sub>max</sub> ) | 2×3000     |           |           |          |                           |
| Maximum capacity (E <sub>max</sub> )               | 10         | 20        | 30        | 50       | kg                        |
| Min. LC verification interval (v <sub>min</sub> )  | 1          | 2         | 2         | 5        | g                         |
| Temp. effect on zero balance                       | ± 0.0014   | ± 0.0014  | ± 0.00093 | ± 0.0014 | % of E <sub>max</sub> /°C |
| Zero balance                                       | ± 0.1      |           |           |          | mV/V                      |
| Rated output                                       | 2.0        |           |           |          | mV/V                      |
| Rated output tolerance                             | ± 0.2      |           |           |          | mV/V                      |
| Temp. effect on rated output +20 ~ +40°C           | ± 0.00175  |           |           |          | % of AL/°C                |
| -10 ~ +20°C  | ± 0.00117  |           |           |          |                           |
| Hysteresis error                                   | ± 0.0166   |           |           |          | % of E <sub>max</sub>     |
| Non-linearity error                                | ± 0.0166   |           |           |          | % of E <sub>max</sub>     |
| Min. dead load output return                       | ± 0.0083   | ± 0.0067  | ± 0.0067  | ± 0.0083 | % of AL                   |
| Offer center load error ( OIML R76 2×3000e )       | ± 0.0036   | ± 0.0024  | ± 0.0024  | ± 0.0030 | % of AL/cm                |
| Cable length                                       | 0.5 or 1.0 |           |           |          | m                         |
| Maximum platform size                              | 250 x 300  | 300 x 350 |           |          | mm                        |
| Recommended torque                                 | 10.0       |           |           |          | N.m                       |

**Notes:**

The values for linearity, hysteresis and temp. effect on rated output are recommended values, the sum of these data meets the requirements according to OIML R60.



# OIML Certificate of Conformity

**OIML Member State**  
The Netherlands

Number R60/2000-NL1-14.05  
Project number 13200569  
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|                                      |  |
|--------------------------------------|--|
| Issuing authority                    | NMi Certin B.V.<br>Person responsible: C. Oosterman  |
| Applicant and Manufacturer           | Acecells Instruments (ZJ) Co.Ltd.<br>No.123 Zhenning West Road, Jiaochuan Street,<br>Zhenhai District, Ningbo<br>China |
| Identification of the certified type | A <b>single point load cell</b> , with strain gauges.<br>Type : WL1022   |
| Characteristics                      | See next page  |

This Certificate attests the conformity of the above identified Type (represented by the sample(s) identified in the OIML Test Report) with the requirements of the following Recommendation of the International Organization of Legal Metrology (OIML):

**OIML R60** - Edition 2000 (E) for accuracy class C

This Certificate relates only to the metrological and technical characteristics of the type of measuring instrument covered by the relevant OIML International Recommendation above-identified.  
This Certificate does not bestow any form of legal international approval.

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Issuing Authority **NMi Certin B.V., OIML Issuing Authority NL1**  
6 June 2014



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The conformity was established by the results of tests and examinations provided in the associated OIML Test Report(s):

- No. NMI-13200569-01 dated 27 May 2014 that includes 51 pages.

## Characteristics of the load cell:

|  |                                 |
|--|---------------------------------|
| Maximum capacity ( $E_{max}$ )                                       | 10 kg up to and including 50 kg |
| Minimum dead load  | 0 kg                            |
| Accuracy Class   | C                               |
| Rated Output   | 2,2 mV/V                        |
| Maximum number of load cell intervals (n)                            | 6000                            |
| Ratio of minimum LC Verification interval<br>$Y = E_{max} / V_{min}$ | 20000                           |
| Ratio of minimum dead load output return<br>$Z = E_{max} / (2 * DR)$ | 6000                            |
| Input impedance  | 400 $\Omega \pm 10 \Omega$      |
| Temperature range  | -10 °C / + 40 °C                |
| Fraction $p_{LC}$  | 0,7                             |
| Humidity Class   | CH                              |
| Safe overload  | 150 % of $E_{max}$              |
| Output impedance   | 350 $\Omega \pm 3 \Omega$       |
| Recommended excitation   | 10 V AC / DC                    |
| Excitation maximum   | 15 V AC / DC                    |
| Transducer material  | Aluminium                       |
| Atmospheric protection   | IP65                            |

The characteristics for  $n_{max}$  and Y can be reduced separately. Z is proportional or equal to  $n_{max}$ .

Each produced load cell is provided with an accompanying document with information about its characteristics.