Explanations

In our catalogue you will find several pictograms beside the text description. They should be helpful for a quick and easier explanation of the articles and their attributes.

### Protection (IP-Code) acc. to DIN 40050 / IEC 60529 etc.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP 40</td>
<td>Protected against solid particles Ø &gt; 1 mm</td>
</tr>
<tr>
<td>IP 41</td>
<td>Protected against solid particles Ø &gt; 1 mm and drop water resistant</td>
</tr>
<tr>
<td>IP 44</td>
<td>Splash water resistant</td>
</tr>
<tr>
<td>IP 51</td>
<td>Drop water resistant</td>
</tr>
<tr>
<td>IP 52</td>
<td>Drop water resistant</td>
</tr>
<tr>
<td>IP 53</td>
<td>Dust and spray water resistant</td>
</tr>
<tr>
<td>IP 54</td>
<td>Dust and spray water resistant</td>
</tr>
<tr>
<td>IP 62</td>
<td>Dust and drop water proof</td>
</tr>
<tr>
<td>IP 63</td>
<td>Dust and spray water proof</td>
</tr>
<tr>
<td>IP 64</td>
<td>Dust and splash water proof</td>
</tr>
<tr>
<td>IP 65</td>
<td>Dust and jet water proof</td>
</tr>
<tr>
<td>IP 66</td>
<td>Water and oil tight (at times)</td>
</tr>
<tr>
<td>IP 67</td>
<td>Water and oil tight (permanent)</td>
</tr>
<tr>
<td>IP 68</td>
<td>Article is explosion proof</td>
</tr>
<tr>
<td>IP 69</td>
<td>Article with UL-certificate (american safety norm)</td>
</tr>
</tbody>
</table>

### Manufacturing process

- Article with laser engraved scale / graduation
- Article with etched scale / graduation
- Article with printed scale / graduation (Pad print)
- Hardened
- Stainless steel

### Icons for data process

- RS232 data output by data cable
- Opto RS232 data output
- Proximity data output, inductive, contactless
- Data output by USB and data cable
- Data output by USB and Mini USB (compatible with Mitutoyo Digimatic)
- Wireless communication (WiFi) possible
- Software on CD-Rom

### Several Icons

- Article-Number
- Reading / Resolution
- Weight in kg
- Cross section of the article
- Max. total accuracy(±)
- Repeatability (±)
- Individual measuring range
- Article dimension
- Measuring- and weighing-unit selectable or swichtable
- Corresponding battery included
- Corresponding cell battery included
- Corresponding lithium battery included
- Corresponding lithium battery included
- Accu
- Power supply
- Laser protection class
- Magnet power
- Induction
- Laser wavelength
- Shock proof
- Stand out
- Reading in mm and inch
- Reading in cm and inch
- Article with ABS/INC measuring system
- Article with absolute measuring function

**ATTENTION**

We charge transport and packing costs for articles marked with *!
About the Certification:
We are also able to quote all DIN measuring tools with a certificate to VDI/VDE/DGQ 2618. Measuring tools manufactured at works standard will be certified according to this norm. The calibrations will be done by an external calibration laboratory. The delivery time for external calibration will take approx one week. Calibration orders can’t be cancelled and calibrated goods are excluded from sale of return. Whether you expect a calibration by laboratory of your choice, we are unable to guarantee for passing. Compensation of refund of costs are also impossible.

Norms, accuracy-classes, regulations

- **EC I**: Article fulfills the respective EC Class standard
- **EC II**: Article fulfills the respective EC Class standard
- **E1**: Article fulfills the respective verification standard
- **CC**: Workshop calibration certificate, inclusive
- **TC**: Article with test certificate, marked with Ident.-No.
- **CE**: Article with CE classification
- **MID**: Directive of the European Parliament and of the council on measuring instruments
- **T2**: Article with strengths tolerances acc. to DIN 2275
- **T3**: Article with strengths tolerances acc. to DIN 2275
- **ASTM**: Article fulfills the respective American standard
- **BS**: Article fulfills the respective British standard
- **JIS K**: Article fulfills the respective Japanese standard
- **DIN**: Article fulfills the respective DIN standard
- **DIN EN**: Article fulfills the respective DIN EN standard
- **ISO**: Article fulfills the respective ISO standard
- **DIN ISO**: Article manufactured acc. to tolerances of workshop standard
- **TÜV**: Article with seal: “TÜV/Geprüfte Sicherheit (GS)”
- **IEC / EN**: Article fulfills the respective norm standard

Art of package for each article

- Article will be packed in a carton box
- Article will be packed in a sturdy box (wood, plastic or aluminum)
- Article will be packed in a leatherette pouch
- Article will be packed in a PVC pouch
- Article will be packed in a sleeve
- Article will be sealed in a foil
- Article will be packed in a DIY plastic pouch with hanging card
- Article will be packed in a plastic film pouch with hanging card
- Article comes with wall hanging card
- Article will be packed in a blister packing
- Article will be packed a clear plastic box
- Carry bag, for outdoor use
- Article delivered on a pallet

Workshop or „DAkkS“-Calibration
(German Calibration Service)
Calibrated instruments available for extra charge. Please send us your specific inquiry.

Quality categories

- ★★★★★: Product for highest demands
- ★★★★★: Industry and craft
- ★★★★★: Craft
- ★★★★★: DIY and training

Product specifications

- Caliper jaw length
- Measuring internal dimension
- Caliper jaws (cross shape)
- Caliper jaws (knife shape)
- Depth Gauge
- Thumbroll
- Fine adjustment
- Thread pitch
- Measuring Inside
- Measuring outside
- Pointer rotation
- Setting gauge
Electr. Digital Angle Measurer Spirit Level

- automatic calculation of single and double mitre angles without any other tools
- sturdy aluminium housing, with adjustable bevel blade
- large LCD display, digit height 12 mm, reading from all directions possible, with shifttable backlight
- rapid calculation and transfer of angles by means of memory function for frequently used angle dimensions
- power On/Off button, data hold function, shock resistant up to 1 m falling down
- with 1x horizontal vial and 1x vertical vial
- with fixing screw for fixing the angle setting
- incl. 2x battery 1.5 V (type AAA, art. no.: 60 9283)
- with carrying bag and operation manual

**NEW**

Electr. Digital Angle Measurer Spirit Level

- for quick and accurate measuring of angular degrees, can also be used as a spirit level
- with 1x horizontal vial and 1x vertical vial
- sturdy aluminium housing, with adjustable bevel blade
- large LCD display with clear reading, digit height 12 mm
- On/Off and zero button, zero setting at any position
- incl. 1x 3 V battery (type CR2032, art. no. 20 02093), with operation manual

<table>
<thead>
<tr>
<th>ART N°</th>
<th>Unit</th>
<th>Min.</th>
<th>Max.</th>
<th>vial</th>
<th>mm</th>
<th>KG</th>
</tr>
</thead>
<tbody>
<tr>
<td>71 1020</td>
<td>0° - 225°</td>
<td>0.05°</td>
<td>0.1°</td>
<td>1 mm/m = ±0.057°</td>
<td>440 x 60 x 25</td>
<td>0.900</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ART N°</th>
<th>Unit</th>
<th>Min.</th>
<th>Max.</th>
<th>vial</th>
<th>mm</th>
<th>KG</th>
</tr>
</thead>
<tbody>
<tr>
<td>71 1025</td>
<td>0° - 228°</td>
<td>0.1°</td>
<td>0.2°</td>
<td>1 mm/m = ±0.057°</td>
<td>305 x 52 x 23</td>
<td>0.275</td>
</tr>
</tbody>
</table>
**Electr. Digital Light Alloy Spirit Levels**

### Electr. Digital Light Alloy Spirit Level

- Rugged, rectangular profile, made of light alloy
- Large LCD display with clear reading, digit height 10 mm, with switchable back light
- Display always appears in the reading direction no matter which direction the device is rotated
- Conversion between ABS- and INC-measurement
- Calculation of ascendent/descendent, angle and deviation
- With self-calibration function
- Power On/Off button, data hold function
- With 1 x horizontal vial and 1 x vertical vial
- Incl. 2x battery 1.5 V (type AAA, art.-no.: 60 9283)
- With operation manual

<table>
<thead>
<tr>
<th>ART NO</th>
<th>Angle</th>
<th>Digital</th>
<th>Range</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>71 2020</td>
<td>4 x 90°</td>
<td>0.1°</td>
<td>0.2°</td>
<td>416 x 50 x 21</td>
</tr>
</tbody>
</table>

### Option

- Art.-no. 71 2991 attachable beam-prism

### Electr. Digital Light Alloy Spirit Level

- With laser pointer and electronical inclination measurement
- Conventional vials are still best means of making horizontal and vertical measurements, an electronic system is the superior method for measurement of all inclinations, this model includes both in one
- With overhead measurement, display always appears in the reading direction no matter which direction the device is rotated
- Rugged, rectangular profile, made of light alloy
- Large LCD display, digit height 10 mm, reading from all directions possible
- Switchable display in angle-, percentage measuring- and tangent-mode
- On/Off button, data hold function and memory function
- Range of laserbeam at day-light — 50 m / in darkness — 100 m
- Incl. 1x 9 V battery (type 6LR61, art.-no.: 60 9281), with acoustic signal
- Delivery with carrying bag.
- With operation manual

### 71 2001

<table>
<thead>
<tr>
<th>ART NO</th>
<th>Angle</th>
<th>Digital</th>
<th>Error Limit</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>71 2001</td>
<td>0.1°</td>
<td>600 x 25 x 60</td>
<td>± 0.1°</td>
<td>0.5 mm/m = ±0.029°</td>
</tr>
</tbody>
</table>

### Electr. Digital Light Alloy Spirit Level

- With cross laser, angle degree indicator and percent deviation
- Rugged, rectangular profile, made of light alloy
- Large LCD display, digit height 10 mm, reading from all directions possible
- Switchable display in angle-, percentage measuring- and tangent-mode
- On/Off button, data hold function and memory function
- Magnetic inserts in the bottom and M6 thread for tripod attachment
- With each 1x horizontal and 1x vertical vial
- With self-calibration and switchable cross laser
- Incl. 1x 9 V battery (type 6LR61, art.-no.: 60 9281), with operation manual

<table>
<thead>
<tr>
<th>ART NO</th>
<th>Angle</th>
<th>Digital</th>
<th>Range</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>71 2010</td>
<td>4 x 90°</td>
<td>0.05°</td>
<td>0.1</td>
<td>225 x 57 x 25</td>
</tr>
</tbody>
</table>

www.vogel-germany.de
**Spirit Levels**

*BLUE-LINE* Spirit Levels „NIVEAU NORM“

- Top quality spirit levels with plane surfaces
- Rugged light alloy rectangular profile, from up to 1500 mm length with extrem solid wall thickness
- With 1x horizontal vial and 1x vertical vial
- Barrel-shaped vials with patented SOLID built-in system, permanent fixed and constantly aligned with the profile
- Surfaces in stratosilver elocated
- Measuring accuracy adjusted by electronic adjustment and at final inspection
- Measuring accuracy in normal position 0.5 mm/m = 0.029°, with reversal measurement minimum 0.75 mm/m = 0.043°

Art-no. 71 4100 – 71 4110

- With strong adhesive magnet in the measurement base

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### Spirit Levels Table

<table>
<thead>
<tr>
<th>Art-No.</th>
<th>Length (mm)</th>
<th>Width (mm)</th>
<th>Measuring Accuracy</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>71 4000</td>
<td>200</td>
<td>50 x 22</td>
<td>0.5 mm/m = ±0.029°</td>
<td>0.142</td>
</tr>
<tr>
<td>71 4001</td>
<td>300</td>
<td>50 x 22</td>
<td>0.5 mm/m = ±0.029°</td>
<td>0.194</td>
</tr>
<tr>
<td>71 4002</td>
<td>400</td>
<td>50 x 22</td>
<td>0.5 mm/m = ±0.029°</td>
<td>0.250</td>
</tr>
<tr>
<td>71 4003</td>
<td>500</td>
<td>50 x 22</td>
<td>0.5 mm/m = ±0.029°</td>
<td>0.299</td>
</tr>
<tr>
<td>71 4004</td>
<td>600</td>
<td>50 x 22</td>
<td>0.5 mm/m = ±0.029°</td>
<td>0.358</td>
</tr>
<tr>
<td>71 4005</td>
<td>800</td>
<td>50 x 22</td>
<td>0.5 mm/m = ±0.029°</td>
<td>0.422</td>
</tr>
<tr>
<td>71 4006</td>
<td>1000</td>
<td>50 x 22</td>
<td>0.5 mm/m = ±0.029°</td>
<td>0.565</td>
</tr>
<tr>
<td>71 4007</td>
<td>1200</td>
<td>50 x 22</td>
<td>0.5 mm/m = ±0.029°</td>
<td>0.682</td>
</tr>
<tr>
<td>71 4008</td>
<td>1500</td>
<td>50 x 22</td>
<td>0.5 mm/m = ±0.029°</td>
<td>1.105</td>
</tr>
<tr>
<td>71 4009</td>
<td>1800</td>
<td>50 x 22</td>
<td>0.5 mm/m = ±0.029°</td>
<td>1.226</td>
</tr>
<tr>
<td>71 4010</td>
<td>2000</td>
<td>50 x 22</td>
<td>0.5 mm/m = ±0.029°</td>
<td>1.366</td>
</tr>
<tr>
<td>71 4100</td>
<td>200</td>
<td>50 x 22</td>
<td>0.5 mm/m = ±0.029°</td>
<td>0.210</td>
</tr>
<tr>
<td>71 4101</td>
<td>300</td>
<td>50 x 22</td>
<td>0.5 mm/m = ±0.029°</td>
<td>0.266</td>
</tr>
<tr>
<td>71 4102</td>
<td>400</td>
<td>50 x 22</td>
<td>0.5 mm/m = ±0.029°</td>
<td>0.383</td>
</tr>
<tr>
<td>71 4103</td>
<td>500</td>
<td>50 x 22</td>
<td>0.5 mm/m = ±0.029°</td>
<td>0.482</td>
</tr>
<tr>
<td>71 4104</td>
<td>600</td>
<td>50 x 22</td>
<td>0.5 mm/m = ±0.029°</td>
<td>0.509</td>
</tr>
<tr>
<td>71 4105</td>
<td>800</td>
<td>50 x 22</td>
<td>0.5 mm/m = ±0.029°</td>
<td>0.614</td>
</tr>
<tr>
<td>71 4106</td>
<td>1000</td>
<td>50 x 22</td>
<td>0.5 mm/m = ±0.029°</td>
<td>0.698</td>
</tr>
<tr>
<td>71 4107</td>
<td>1200</td>
<td>50 x 22</td>
<td>0.5 mm/m = ±0.029°</td>
<td>0.809</td>
</tr>
<tr>
<td>71 4108</td>
<td>1500</td>
<td>50 x 22</td>
<td>0.5 mm/m = ±0.029°</td>
<td>1.308</td>
</tr>
<tr>
<td>71 4109</td>
<td>1800</td>
<td>50 x 22</td>
<td>0.5 mm/m = ±0.029°</td>
<td>1.554</td>
</tr>
<tr>
<td>71 4110</td>
<td>2000</td>
<td>50 x 22</td>
<td>0.5 mm/m = ±0.029°</td>
<td>1.664</td>
</tr>
</tbody>
</table>

[www.vogel-germany.de](http://www.vogel-germany.de)