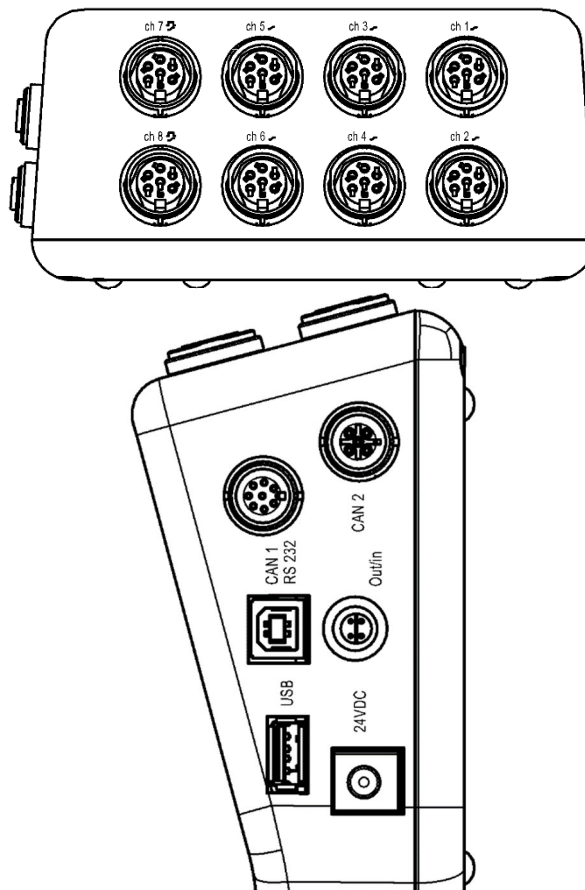
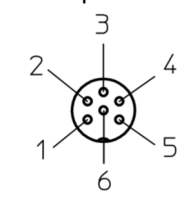
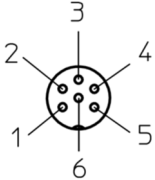
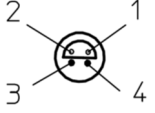
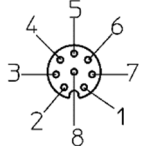


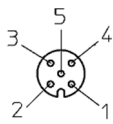
|                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <h3>MultiSystem 5070</h3> <ul style="list-style-type: none"> <li>• Handmessgerät mit 8 Messeingängen, digitalem Eingang und Ausgang und 32 Sonderkanälen (für Berechnungen und CAN) für den mobilen Einsatz</li> <li>• Signaleingänge für 0/4...20 mA, 0/2...10 V, 1...5 V, 0.5...4.5V, <math>\pm 10V</math></li> <li>• Signaleingänge für Frequenz und Impulse (Zähler) mit Richtungserkennung, 0.25Hz ... 20kHz</li> <li>• AD-Wandler: 13 Bit</li> <li>• Messwertspeicher (microSD-Karte) für 500 Messreihen</li> <li>• Max. 6 Mio. Messwerte pro Messreihe</li> <li>• USB Device, USB-Host, RS232-Schnittstelle und 2x CAN-Schnittstelle</li> <li>• Diverse Möglichkeiten für Kanalerweiterungen</li> </ul>                                                                                                                                                                        | <ul style="list-style-type: none"> <li>• <i>Instrument with 8 measuring channels, digital input and output and 32 special channels (for calculation and CAN) for mobile application</i></li> <li>• <i>Signal input for 0/4...20 mA, 0/2...10 V, 1...5 V, 0.5 ... 4.5V, <math>\pm 10V</math></i></li> <li>• <i>Signal input for frequency and impulses (counter) with direction detection, 0.25Hz ... 20kHz</i></li> <li>• <i>AD-converter: 13 Bit</i></li> <li>• <i>Memory (microSD-card) for 500 measurements</i></li> <li>• <i>Max. 6 Mio. values per measurement</i></li> <li>• <i>USB device, USB-Host, RS232 interface, 2x CAN interface</i></li> <li>• <i>Various options for channel extensions</i></li> </ul>                                                                                                                                                              |
| <h3>Beschreibung<br/>Description</h3>                                             | <p>Das MultiSystem 5070 ist optimal für den mobilen Einsatz geeignet und verfügt über ein 5" großes, tageslichttaugliches Farbdisplay. Die Bedienung des Gerätes erfolgt sehr einfach mit Hilfe einer grafisch strukturierten Benutzeroberfläche. Freiwahlbare Favoriten sowie die Erstellung von Screenshots sind ausschlaggebend für eine benutzerfreundliche Handhabung. Die Verwendung der Lithium-Ionen-Akkutechnologie ermöglicht ausreichend Leistung für den gesamten Arbeitstag. Die Schnellladefunktion bietet eine effiziente Wiederaufladung des Gerätes in weniger als 2 Stunden. Umfangreiche Anschlussmöglichkeiten zur Verwendung von Analog-, Frequenz-, Zähler- und Trigger-Signalen sind vorhanden. Ein weiterer Vorteil des Gerätes sind zwei getrennte CAN-Schnittstellen. Damit wird eine separate Datenerfassung von insgesamt 32 CAN-Signalen ermöglicht.</p> | <p><i>The MultiSystem 5070 is ideal for mobile usage and has a big 5" colored, daylight workable display. Operation with the instrument is much easier in fact of using a new structured and graphical user interface.</i></p> <p><i>Freely selectable main menu favorites and the screenshot function are some new features of the usability for the device.</i></p> <p><i>By using a lithium ion battery, it is possible to use the device a whole working day.</i></p> <p><i>The quick battery charging function enables You to reload the device efficiently within less than 2 hours.</i></p> <p><i>Various connectivity for analog-, frequency-, counter- and trigger-signals are included.</i></p> <p><i>An additional advantage of the actual device are two separate CAN-interfaces.</i></p> <p><i>It gives the user the opportunity to use up to 32 CAN signals.</i></p> |

|                                                  |                                                                                                 |                                                                                                        |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| <b>Verwendungszweck</b><br><i>Designated use</i> | Analyse, Erfassung, Ausgabe und Speicherung von Messwerten von analogen und digitalen Sensoren. | <i>Analysis, acquisition, output and storage of measured values from analogue and digital sensors.</i> |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|

**Elektrische Verbindungen**  
*Electrical connections*


| <b>Pinbelegungen</b><br><i>Pin assignments</i>                                                                                                                                                             | <b>Bezeichnung</b><br><i>Label</i> | <b>Nr.</b><br><i>No.</i> | <b>Funktion</b>          | <b>Function</b>                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|--------------------------|--------------------------|---------------------------------|
| Rundsteckverbinder M16 x 0.75 mit Schraubverriegelung, Ausführung 06-a, 6-polig, Buchse<br><i>Circular connectors M16 x 0.75 with screw-locking, Layout 06-a, 6 poles, female IEC / DIN EN 61076-2-106</i> |                                    |                          |                          |                                 |
| 4...20mA, Zweileiter / <i>two-wire</i>                                                                                                                                                                     |                                    | Pin1, Pin3               |                          |                                 |
| 0/4...20mA, Dreileiter / <i>three-wire</i>                                                                                                                                                                 |                                    | Pin1, Pin2, Pin3         |                          |                                 |
| 0/2...10V, 1...5V, 0.5...4.5V, $\pm 10V$                                                                                                                                                                   |                                    | Pin4, Pin2, Pin3         |                          |                                 |
| <br>Signaleingang 1-8<br><i>Signal input 1-8</i>                                                                        | Signal                             | 1                        | Analogsignaleingang 20mA | <i>Analog Signal input 20mA</i> |
|                                                                                                                                                                                                            | GND                                | 2                        | Masse                    | <i>Ground</i>                   |
|                                                                                                                                                                                                            | +Ub                                | 3                        | Stromversorgung Sensor   | <i>Sensor power supply</i>      |
|                                                                                                                                                                                                            | Signal                             | 4                        | Analogsignaleingang 10V  | <i>Analog Signal input 10V</i>  |
|                                                                                                                                                                                                            | SHLD                               | 5                        | Schirm                   | <i>Shield</i>                   |
|                                                                                                                                                                                                            | ISDS                               | 6                        | Sensorerkennung          | <i>Sensor detection</i>         |

| Pinbelegungen<br><i>Pin assignments</i>                                                                                                                                                                    | Bezeichnung<br><i>Label</i> | Nr.<br><i>No.</i> | Funktion                                      | Function                                         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-------------------|-----------------------------------------------|--------------------------------------------------|
| Rundsteckverbinder M16 x 0.75 mit Schraubverriegelung, Ausführung 06-a, 6-polig, Buchse<br><i>Circular connectors M16 x 0.75 with screw-locking, Layout 06-a, 6 poles, female IEC / DIN EN 61076-2-106</i> |                             |                   |                                               |                                                  |
| M16 6p f<br><br>Signaleingang 7-8<br><i>Signal input 7-8</i>                                                              | f-Signal                    | 1                 | Frequenzsignal / Analogsignal                 | <i>Frequency / analog signal</i>                 |
|                                                                                                                                                                                                            | GND                         | 2                 | Masse                                         | <i>Ground</i>                                    |
|                                                                                                                                                                                                            | +Ub                         | 3                 | Stromversorgung Sensor                        | <i>Sensor power supply</i>                       |
|                                                                                                                                                                                                            | f-Signal 2                  | 4                 | Frequenzsignal 2 (Richtung)<br>Analog         | <i>Frequency signal 2 (direction)<br/>Analog</i> |
|                                                                                                                                                                                                            | SHLD                        | 5                 | Schirm                                        | <i>Shield</i>                                    |
|                                                                                                                                                                                                            | ISDS                        | 6                 | Sensorerkennung                               | <i>Sensor detection</i>                          |
| Lemo Serie 1S, 4-polig, Referenz 304, Stecker / <i>Lemo Series 1S, 4 poles, reference 304, plug</i>                                                                                                        |                             |                   |                                               |                                                  |
| Lemo 1S 4p<br><br>Digitaler Signaleingang/ausgang<br><i>Digital signal input/output</i>                                   | GND                         | 1                 | Masse digitaler Signalausgang                 | <i>Ground digital signal output</i>              |
|                                                                                                                                                                                                            | DIO OUT                     | 2                 | Digitaler Signalausgang                       | <i>Signal digital signal output</i>              |
|                                                                                                                                                                                                            | DIO IN                      | 3                 | Digitaler Signaleingang                       | <i>Signal digital signal input</i>               |
|                                                                                                                                                                                                            | GND                         | 4                 | Masse digitaler Signaleingang                 | <i>Ground digital signal input</i>               |
| Rundsteckverbinder M12 x 1 mit Schraubverriegelung, A-Kodierung, 8-polig, Buchse<br><i>Circular connectors M12 x 1 with screw-locking, A-coding, 8 poles, female IEC / DIN EN 61076-2-101</i>              |                             |                   |                                               |                                                  |
| M12 A 8p f<br><br>Signaleingang /<br><i>Signal input</i><br>CAN 1 / RS232                                               | CAN GND                     | 1                 | CAN Masse                                     | <i>CAN Ground</i>                                |
|                                                                                                                                                                                                            | CAN V+                      | 2                 | Stromversorgung CAN Sensor<br>bzw. MultiXtend | <i>CAN sensor power supply or<br/>MultiXtend</i> |
|                                                                                                                                                                                                            | DTR                         | 3                 | RS232 Signal DTR                              | <i>RS232 signal DTR</i>                          |
|                                                                                                                                                                                                            | CAN H                       | 4                 | CAN High                                      | <i>CAN High</i>                                  |
|                                                                                                                                                                                                            | TXD                         | 5                 | RS232-Signal TXD                              | <i>RS232 signal TXD</i>                          |
|                                                                                                                                                                                                            | RING                        | 6                 | Pin für Bootloader                            | <i>Pin for bootloader</i>                        |
|                                                                                                                                                                                                            | CAN L                       | 7                 | CAN Low                                       | <i>CAN Low</i>                                   |
|                                                                                                                                                                                                            | RXD                         | 8                 | RS232-Signal RXD                              | <i>RS232-Signal RXD</i>                          |

| Pinbelegungen<br><i>Pin assignments</i>                                                                                                                                                       | Bezeichnung<br><i>Label</i> | Nr.<br><i>No.</i> | Funktion                                 | Function                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-------------------|------------------------------------------|------------------------------------------------|
| Rundsteckverbinder M12 x 1 mit Schraubverriegelung, A-Kodierung, 5-polig, Buchse<br><i>Circular connectors M12 x 1 with screw-locking, A-coding, 5 poles, female IEC / DIN EN 61076-2-101</i> |                             |                   |                                          |                                                |
| <br>Signaleingang /<br><i>Signal input CAN 2</i>                                                             | CAN SHLD                    | 1                 | Schirmung                                | <i>Shield</i>                                  |
|                                                                                                                                                                                               | CAN V+                      | 2                 | CAN Stromversorgung                      | <i>CAN Power</i>                               |
|                                                                                                                                                                                               | CAN GND                     | 3                 | CAN Masse                                | <i>CAN Ground</i>                              |
|                                                                                                                                                                                               | CAN H                       | 4                 | CAN High                                 | <i>CAN High</i>                                |
|                                                                                                                                                                                               | CAN L                       | 5                 | CAN Low                                  | <i>CAN Low</i>                                 |
| Stromversorgung /<br><i>Power supply</i><br><br><br>Klinkenbuchse / <i>jack plug</i>                         | PWR+                        | 1                 | Stromversorgung Messgerät<br>24VDC (+)   | <i>Instrument power supply<br/>24VDC (+)</i>   |
|                                                                                                                                                                                               | PWR-                        | 2                 | Stromversorgung Messgerät<br>Masse (GND) | <i>Instrument power supply<br/>Masse (GND)</i> |

| Elektrische Eigenschaften<br><i>Electrical characteristics</i>           |            | Referenzbedingungen / <i>Reference conditions</i> :<br>Umgebungstemperatur Ta = 25°C / <i>environmental temperature Ta = 77 °F</i> |       |                         |                                                                                                         |
|--------------------------------------------------------------------------|------------|------------------------------------------------------------------------------------------------------------------------------------|-------|-------------------------|---------------------------------------------------------------------------------------------------------|
| Parameter                                                                | Min        | Typ.                                                                                                                               | Max   | Einheit<br><i>Units</i> | Bemerkung<br><i>Remarks</i>                                                                             |
| Eingangssignal Strom /<br><i>Input signal current</i>                    | 0          |                                                                                                                                    | 20    | mA                      |                                                                                                         |
| Eingangsbeschaltung Strom /<br><i>Input impedance current</i>            |            | 113Ω/35nF<br>113Ω/100nF                                                                                                            |       |                         | Kanal / <i>channel</i> 1-6<br>Kanal / <i>channel</i> 7-8                                                |
| Fehlergrenzen 20mA Signaleingang<br><i>Error limit 20mA signal input</i> |            |                                                                                                                                    | ±0.1  | % FS <sup>1</sup>       |                                                                                                         |
| Eingangssignal Spannung /<br><i>Input signal voltage</i>                 | -10        |                                                                                                                                    | 10    | V                       |                                                                                                         |
| Eingangsbeschaltung Spannung /<br><i>Input impedance voltage</i>         |            | 8.8kΩ/35nF<br>8.8kΩ/100nF                                                                                                          |       |                         | Kanal / <i>channel</i> 1-6<br>Kanal / <i>channel</i> 7-8                                                |
| Fehlergrenzen 10V Signaleingang /<br><i>Error limit 10V signal input</i> |            |                                                                                                                                    | ±0.1  | % FS                    |                                                                                                         |
| Frequenz-Eingangssignal /<br><i>Input signal frequency</i>               | 0.25       |                                                                                                                                    | 20000 | Hz                      | Richtungserkennung 45°<br>bis 135° bei 5V TTL<br><i>Direction detection 45°<br/>to 135° with 5V TTL</i> |
| Eingangsbeschaltung f-Signal /<br><i>input impedance f-signal</i>        | 100kΩ/33nF |                                                                                                                                    |       |                         |                                                                                                         |
| Fehlergrenzen f-Signal /<br><i>Error limit f-signal</i>                  |            |                                                                                                                                    | ±0.02 | % MV <sup>1</sup>       |                                                                                                         |
| Signal Digitaleingang (high) /                                           | 2          |                                                                                                                                    | 30    | VDC                     |                                                                                                         |

<sup>1</sup> FS Skalenendwert / *full scale*  
MV Messwert / *measured value*

| <b>Elektrische Eigenschaften</b><br><b>Electrical characteristics</b> |      | Referenzbedingungen / Reference conditions:<br>Umgebungstemperatur Ta = 25°C / environmental temperature Ta = 77 °F |        |                  |                                                 |
|-----------------------------------------------------------------------|------|---------------------------------------------------------------------------------------------------------------------|--------|------------------|-------------------------------------------------|
| Parameter                                                             | Min  | Typ.                                                                                                                | Max    | Einheit<br>Units | Bemerkung<br>Remarks                            |
| Signal digital input (high)                                           |      |                                                                                                                     |        |                  |                                                 |
| Temperaturfehler /<br>Temperature error                               |      |                                                                                                                     | ±0.005 | %/°C             | Nur für Analogeingänge<br>Only for analog input |
| Sensorstromversorgung /<br>power supply sensor                        | 14.4 |                                                                                                                     | 15.1   | VDC              | Strombegrenzung<br>200mA<br>Current limit 200mA |
| Stromversorgung Can / MultiXtend<br>Power supply Can / MultiXtend     | 14.6 |                                                                                                                     | 15     | VDC              | 800mA                                           |

| <b>Absolute Grenzwerte</b><br><b>Absolute maximum rating</b> | Min       | Max       | Einheit<br>Unit | Bedingung<br>Condition                 |
|--------------------------------------------------------------|-----------|-----------|-----------------|----------------------------------------|
| Anschlussspannung /<br>Supply voltage                        | 11        | 26        | VDC             | Strombegrenzung 2A<br>Current limit 2A |
| Lagertemperatur /<br>Storage temperature                     | -20<br>-4 | 50<br>122 | °C<br>°F        |                                        |
| Betriebstemperatur /<br>Operating temperature                | -10<br>14 | 50<br>122 | °C<br>°F        |                                        |
| Temperaturbereich Akku Laden /<br>Charging temperature       | 10<br>50  | 40<br>104 | °C<br>°F        |                                        |
| Relative Feuchte /<br>Relative humidity                      | 0         | 80        | %r.F./r.H.      | Nicht betauend / not condensing        |

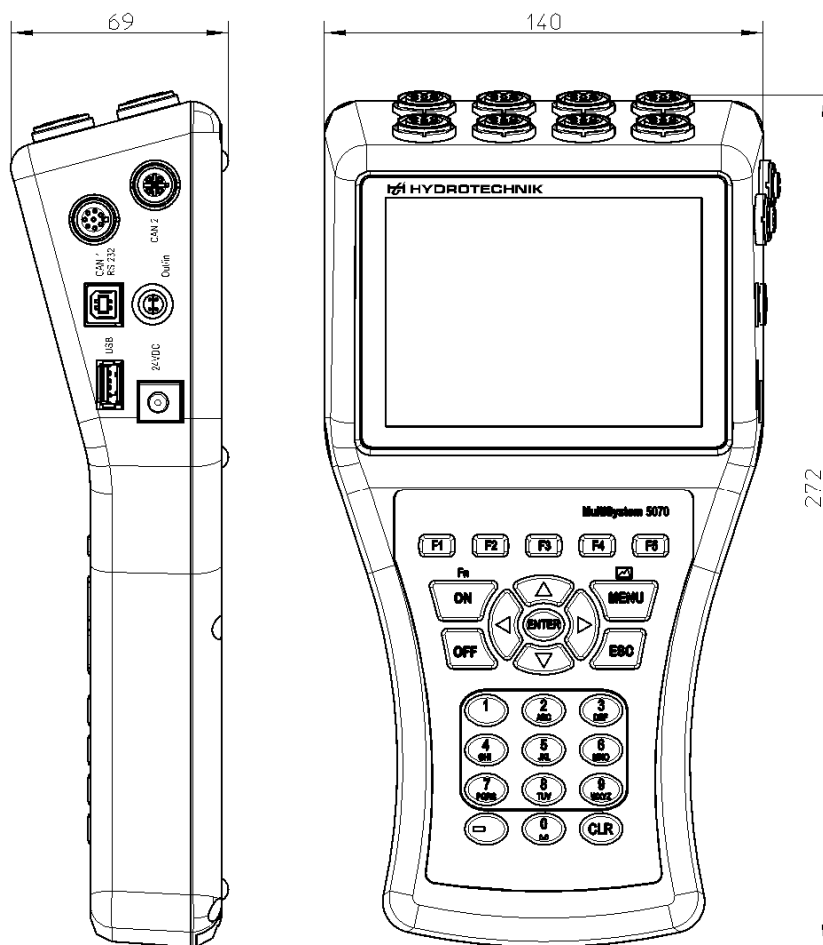
| <b>Mechanische Eigenschaften</b><br><b>Mechanical characteristics</b> |                                  |
|-----------------------------------------------------------------------|----------------------------------|
| Gehäuse / Casing                                                      | PC+ABS+20GF Kunststoff / plastic |
| Schutzart / IP protection class                                       | IP40                             |
| Abmessungen / Dimension                                               | 270 x 140 x 69 mm                |
| Gewicht / Weight                                                      | 1.072 kg                         |

| <b>Technische Eigenschaften</b><br><b>Technical characteristics</b> |               |                                              |
|---------------------------------------------------------------------|---------------|----------------------------------------------|
| Parameter                                                           | Wert<br>Value | Bemerkung<br>Note                            |
| Anzahl Signaleingänge /<br>Number signal IN                         | 8             | 6 x AD<br>2 x umschaltbar / switchable       |
| Messrate Signaleingang /<br>Scanning rate signal IN                 | 0.1 ms        |                                              |
| Digitaler Tiefpass /<br>Digital low pass filter                     | 5 kHz, 50 Hz  |                                              |
| Anzahl Digitaleingänge /<br>Number digital IN                       | 1             | Galvanisch getrennt /<br>electrical isolated |

| <b>Technische Eigenschaften</b><br><i>Technical characteristics</i>                                      |                                               |                                                                                 |
|----------------------------------------------------------------------------------------------------------|-----------------------------------------------|---------------------------------------------------------------------------------|
| <b>Parameter</b>                                                                                         | <b>Wert</b><br><i>Value</i>                   | <b>Bemerkung</b><br><i>Note</i>                                                 |
| Messrate Digitaleingang /<br><i>Scanning rate digital IN</i>                                             | 1ms                                           |                                                                                 |
| Anzahl Digitalausgänge /<br><i>Number digital OUT</i>                                                    | 1                                             | Max. Belastung / <i>max. load</i><br>Ub / 10mA                                  |
| Reaktionszeit Digitalausgang /<br><i>Response time digital OUT</i>                                       | ≤ 1 ms                                        |                                                                                 |
| Anzahl CAN-Eingänge /<br><i>Number CAN input</i>                                                         | 32                                            | CAN, CANopen, SAE J1939                                                         |
| Anzeige / <i>Display</i>                                                                                 | 5" Farb-TFT<br><i>5" Colour TFT</i>           | Auflösung / <i>resolution</i><br>QVGA (320 x 240)                               |
| Speichermedium /<br><i>Storage medium</i>                                                                | 4 GB                                          | microSD-Karte / <i>microSD-card</i>                                             |
| Anzahl Messreihen /<br><i>Number measurements</i>                                                        | 500                                           |                                                                                 |
| Mittlere Ladezeit /<br><i>Average charging time</i>                                                      | < 2 h                                         | bei 25 °C auf 90% Ladezustand<br><i>at 77°F to 90% state of charge</i>          |
| Netzunabhängige Betriebsdauer /<br><i>Battery powered operation time</i>                                 | 10 h                                          | 8 Sensoren mit 12mA Last<br><i>8 sensors with 12mA load</i>                     |
| Optimale Lagerbedingungen<br><i>Optimal storage conditions</i>                                           | 20...60%<br>20°C / 68°F, 15%...65% r.F. (r.H) | Ladezustand / <i>charging state</i><br>Klimatische Bed. / <i>climatic cond.</i> |
| Empfohlener Ladezyklus bei<br>Nichtbenutzung / <i>Recommended</i><br><i>charge cycle when not in use</i> | 6 Monate / <i>6 month</i>                     |                                                                                 |
| Stützbatterie / <i>backup battery</i>                                                                    | CR2032                                        |                                                                                 |

| <b>Softwarekompatibilität</b><br><i>Software compatibility</i> |                                                                                                                         |
|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Microsoft Windows                                              | <ul style="list-style-type: none"> <li>• Windows 7 <sup>1</sup></li> <li>• Windows 8.1</li> <li>• Windows 10</li> </ul> |
| Hydrotechnik                                                   | <ul style="list-style-type: none"> <li>• HYDROcenter</li> <li>• HYDROlink 6</li> <li>• HYDROcom 6</li> </ul>            |

<sup>1</sup> Erfordert Gerätetreiber, der auf unserer Homepage [www.hydrotechnik.com](http://www.hydrotechnik.com) zur Verfügung steht.  
*Requires driver provided on our homepage [www.hydrotechnik.com](http://www.hydrotechnik.com)*

**Baugruppen-Zeichnung**  
**Assembly drawing****Typenschild**  
**Type plate****Multi System 5070**Eingangssignal / Input Signal  
0/4...20 mA / +/- 10 V / 0.25...20 kHzExt. Spannungsversorgung  
External Voltage Supply  
12...26 VDC, 2 ABestell-Nr. / Part-No. 3160-A0-82.00  
SN 0012
 **HYDROTECHNIK**
Limburg / Germany  
[www.hydrotechnik.com](http://www.hydrotechnik.com)**Bestellinformationen /**  
**Order information****Produkt / Product**

MultiSystem 5070

**Ausführung / Version**

Standard

**Bestell-Nr. / Part-No.**

3160-A0-82.00

**Verpackung / Packaging**

MultiSystem 5070 wird in einem Transportkoffer geliefert. Zum Lieferumfang gehören Netzteil und USB-Kabel.

*MultiSystem 5070 is delivered in a case. External Power supply and USB cable are part of delivery.*

| <b>Zubehör und Ersatzteile</b><br><i>Accessories and spare parts</i> |                                   |                                      |
|----------------------------------------------------------------------|-----------------------------------|--------------------------------------|
| <b>TKZ / order number</b>                                            | <b>Produkt</b>                    | <b>Product</b>                       |
| 8812-02-00.02                                                        | Tischnetzgerät ohne Netzzuleitung | Power supply unit                    |
| 8812-20-12.03                                                        | Netzzuleitung EU                  | Main connector with EU plug          |
| 8812-20-12.04                                                        | Netzzuleitung UK                  | Main connector with UK plug          |
| 8812-20-12.05                                                        | Netzzuleitung USA / Japan         | Main connector with USA / Japan plug |
| 8812-20-12.06                                                        | Netzzuleitung Australien          | Main connector with Australia plug   |
| 8854-30-03.30                                                        | Stoßschutz                        | Rubber protection cover              |

| <b>Europäische Konformität</b><br><i>European Conformity</i>                                       |                       |                      |  |
|----------------------------------------------------------------------------------------------------|-----------------------|----------------------|-------------------------------------------------------------------------------------|
| EMV<br>Elektromagnetische Verträglichkeit /<br><i>electromagnetic compatibility</i>                | Richtlinie 2014/30/EU | Directive 2014/30/EU |                                                                                     |
| Niederspannungsrichtlinie<br><i>Low Voltage Directive</i>                                          | Richtlinie 2014/35/EU | Directive 2014/35/EU |                                                                                     |
| RoHS<br>Beschränkung gefährlicher Stoffe /<br><i>Restriction of Hazardous Substances Directive</i> | Richtlinie 2011/65/EU | Directive 2011/65/EU |                                                                                     |

|                                                              |                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>REACH-Regulation (EU)</b><br><b>No.1907/2006, Art. 33</b> | Die HYDROTECHNIK GmbH ist als Hersteller von Erzeugnissen, im Sinne der REACH-Verordnung, nachgeschalteter Anwender geringer Mengen und somit nicht registrierungspflichtig. Wir liefern ausschließlich nicht chemische Produkte. Diese beinhalten keine Stoffe, die nach REACH Artikel 7 unter normalen oder vernünftigerweise vorhersehbaren Verwendungsbedingungen zur Freisetzung beabsichtigt sind. | <i>HYDROTECHNIK GmbH as a manufacturer of products is, with regard to the REACH regulation, a downstream-user of small quantities. As such it is not obliged to register. We exclusively supply non-chemical products. These do not contain substances which, according to REACH Article 7, are intended for release under normal or reasonably foreseeable conditions of use.</i> |
|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                                                                                                                                         |                                                                                                                                                                                                    |                                                                                                                                                                                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Hinweise zur Entsorgung /<br/>Disposal information</b>                                                                                               |                                                                                                                 |                                                                                                                                                                                                |
| WEEE<br>Elektro- und Elektronik-Altgeräte /<br><i>Waste electrical and electronic<br/>equipment</i>                                                     | Richtlinie 2012/19/EU                                                                                                                                                                              | <i>Directive 2012/19/EU</i>                                                                                                                                                                    |
| Batterien und Akkumulatoren sowie<br>Altbatterien und Alttakkumulatoren /<br><i>Batteries and accumulators and<br/>waste batteries and accumulators</i> | Richtlinie 2006/66/EG                                                                                                                                                                              | <i>Directive 2006/66 EU</i>                                                                                                                                                                    |
|                                                                                                                                                         | Dieses Produkt nicht mit dem<br>Hausmüll entsorgen.<br>Ausführliche Hinweise zur Ent-<br>sorgung finden Sie auf unserer<br>Homepage <a href="http://www.hydrotechnik.com">www.hydrotechnik.com</a> | <i>This product is not to be disposed<br/>of in the household waste.<br/>Further information to be found on<br/>our website <a href="http://www.hydrotechnik.com">www.hydrotechnik.com</a></i> |

|                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Haftungsausschluss /<br/>Limitation of Liability</b> | Änderungen an Produkten und<br>Dokumentationen im Sinne des<br>technischen Fortschritts und der<br>stetigen Verbesserung sind<br>vorbehalten und können jederzeit<br>ohne vorherige Mitteilung eintreten.<br>Die dann gültigen Spezifikationen<br>können von den Angaben in dieser<br>Revision des technischen<br>Datenblatts abweichen. Druckfehler<br>sind vorbehalten. Im Zweifelsfall gilt<br>die deutsche Sprachversion. | <i>Changes of products and<br/>documentation in the sense of<br/>technical progress and continuous<br/>improvement may occur at any time<br/>without prior notification. Hence<br/>specifications may than differ from<br/>those given in this revision of the<br/>technical data sheet. There is no<br/>liability for possible misprints. The<br/>German language version is valid in<br/>any case of doubt.</i> |
|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| <b>Batterien / Batteries</b>                                                                                |                                                   | <b>Akkupack<br/>Battery Pack</b>                                                                                                                                                                                                                                                    | <b>Stützbatterie<br/>Backup battery</b>                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Typ                                                                                                         |                                                   | Wiederaufladbare Li-Ion Batterie /<br>Secondary (re-chargeable) Li-Ion<br>battery                                                                                                                                                                                                   | Nicht-wiederaufladbare Lithium<br>Metall Batterie (Knopfzelle)<br>Primary Lithium Metal Battery<br>(button cell)                                                                                                                                                                    |
| Zellentyp / cell type                                                                                       |                                                   | 4 x Panasonic NCR18650A (2S2P)                                                                                                                                                                                                                                                      | 1 x CR 2032 MFR                                                                                                                                                                                                                                                                     |
| Nominale Akkuspannung /<br>Nominal Battery Voltage                                                          |                                                   | 7.2 V                                                                                                                                                                                                                                                                               | 3.0 V                                                                                                                                                                                                                                                                               |
| Kapazität / Capacity                                                                                        |                                                   | 41.76 Wh / 5.8 Ah                                                                                                                                                                                                                                                                   | 0.68 Wh / 225 mAh                                                                                                                                                                                                                                                                   |
| UN-Nummer / UN-Number                                                                                       |                                                   | UN 3481                                                                                                                                                                                                                                                                             | UN 3091                                                                                                                                                                                                                                                                             |
| Lithiumgehalt / lithium content                                                                             |                                                   |                                                                                                                                                                                                                                                                                     | < 1g                                                                                                                                                                                                                                                                                |
| Qualifikation /<br>Qualification                                                                            |                                                   | Batterien wurden gemäß den<br>Prüfvorschriften des „UN-<br>Handbuchs Prüfungen und<br>Kriterien“, Teil 3, Unterabschnitt<br>38.3 geprüft. /<br>Batteries were tested according to<br>the test requirements of the “UN-<br>Manual of Tests and Criteria”, Part<br>3, subsection 38.3 | Batterien wurden gemäß den<br>Prüfvorschriften des „UN-<br>Handbuchs Prüfungen und<br>Kriterien“, Teil 3, Unterabschnitt<br>38.3 geprüft. /<br>Batteries were tested according to<br>the test requirements of the “UN-<br>Manual of Tests and Criteria”, Part<br>3, subsection 38.3 |
| <b>Straße / Schiene (ADR/RID), Seefracht (IMDG Code)<br/>Road / rail (ADR/RID), sea freight (IMDG Code)</b> |                                                   |                                                                                                                                                                                                                                                                                     | Batterien in Ausrüstung /<br>Batteries contained in equipment                                                                                                                                                                                                                       |
|                                                                                                             | Verpackungsvorschrift /<br>Packaging instructions | ADR/RID SV 188<br>IMDG Code SP 188                                                                                                                                                                                                                                                  | ADR/RID SV 188<br>IMDG Code SP 188                                                                                                                                                                                                                                                  |
|                                                                                                             | EMS Code                                          | F-A, S-I                                                                                                                                                                                                                                                                            | F-A, S-I                                                                                                                                                                                                                                                                            |
|                                                                                                             | Gewichtsbegrenzung /<br>Max. weight               | Keine /<br>n/a                                                                                                                                                                                                                                                                      | Keine /<br>n/a                                                                                                                                                                                                                                                                      |
|                                                                                                             | Versendererklärung /<br>Shipper's Declaration     | Nicht erforderlich /<br>n/a                                                                                                                                                                                                                                                         | Nicht erforderlich /<br>n/a                                                                                                                                                                                                                                                         |
| <b>Luftverkehr (IATA)<br/>Air freight (IATA)</b>                                                            |                                                   |                                                                                                                                                                                                                                                                                     | Batterien in Ausrüstung /<br>Batteries contained in equipment                                                                                                                                                                                                                       |
|                                                                                                             | Verpackungsvorschrift /<br>Packaging instructions | PI 967, Abschnitt II /<br>PI 967, section II                                                                                                                                                                                                                                        | PI 970 Abschnitt II /<br>PI 970 section II                                                                                                                                                                                                                                          |
|                                                                                                             | Gewichtsbegrenzung /<br>Max. weight               | Passagier- und Frachtflugzeuge: 5 kg netto Batteriegewicht (~20 Geräte) /<br>Passenger und cargo aircraft: 5 kg net batterie weight (~20 devices)                                                                                                                                   |                                                                                                                                                                                                                                                                                     |
|                                                                                                             | Versendererklärung /<br>Shipper's Declaration     | Nicht erforderlich /<br>n/a                                                                                                                                                                                                                                                         | Nicht erforderlich /<br>n/a                                                                                                                                                                                                                                                         |
| <b>Kennzeichnung /<br/>Marking</b>                                                                          |                                                   |                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                     |