MultiXtend Extension Modules

MultiXtend is the name of the handy modules that can be used to expand the Hydrotechnik measuring instruments or equip them with additional functions. They may provide further input channels for sensors with analog or frequency output signal, allow the measuring of electrical measurands, or the connection of thermocouples.

More channels ...

MultiXtend A
MultiXtend f
MultiXtend Thermo

More signals ...

MultiXtend Thermo
MultiXtend UI
MultiXtend NPN

More functions ...

MultiXtend Split
MultiXtend Trigger

MultiXtend

Extension Modules

... make more of your measuring instruments

Compatibility

		CAN output signal	MultiSystem 8050	MultiSystem 5060 *Plus*	MultiSystem 4010	MultiBox 306x	MultiHandy 302x	MultiHandy 2020
				Usable with ...				
MultiXtend A	4 analog input channels	✓	✓	✓	✓	✗	✗	✗
MultiXtend f	4 frequency input channels	✓	✓	✓	✓	✗	✗	✗
MultiXtend f	1 frequency input channel	✓	✓	✓	✓	✗	✗	✗
MultiXtend Thermo	connect 4 thermocouples	✓	✓	✓	✓	✗	✗	✗
MultiXtend Thermo	connect 1 thermocouple	✗	✓	✓	✓	✓	✓	✗
MultiXtend UI	measure current and voltage	✗	✓	✓	✓	✓	✓	✗
MultiXtend Split	2 recipients for 1 sensor	✗	✓	✓	✓	✓	✓	✓
MultiXtend NPN	connect 1 NPN frequency sensor	✗	✓	✓	✓	✓	✓	✗
MultiXtend Trigger	synchronise up to 4 instruments	✗	✓	✓	✓	✗	✗	✗
MultiMeter	measure electrical measurands	✗	✓	✓	✓	✗	✗	✗

MultiXtend UI

Measure current and voltage at an analog input (0 ... 20 mA). The measuring inputs are separated galvanically, a PWM filter can be enabled. Choose one of the two device versions with different measuring ranges.

Measuring range voltage	± 60 V DC	± 30 V DC
Input resistor	60 kΩ	10 MΩ
Measuring range current	± 4 A DC	± 2 A DC
Input resistor	0.05 Ω	0.1 Ω
Supply voltage	13 ... 30 V DC	
Supply current	40 mA (without signal)	
Measuring error	< ± 1 % of end value	
Zero value	at output signal 10 mA	

MultiXtend UI • measuring ranges ± 30 V DC / ± 2 A DC	316A-00-00.20
MultiXtend UI • measuring ranges ± 60 V DC / ± 4 A DC	316A-00-00.30
Connection cable for measuring instruments, 5.0 m (measuring cable MKS 03)	8824-S1-05.00S
Replacement fuse 2 A (for 316A-00-00.20)	8829-01-00.13
Replacement fuse 4 A (for 316A-00-00.30)	8829-01-00.17

MultiXtend Extension Modules

MultiXtend A
Fig. 1

MultiXtend f
Fig. 1 / 2

NEU

MultiXtend Thermo
without picture

Fig. 1

Fig. 2

Use these modules to connect additional analog or frequency sensors, or thermocouples. The sensor signals are digitised and transmitted via CAN bus to the measuring instrument.

The MultiXtend A provides four inputs for analog sensors with 0 ... 20 mA or 4 ... 20 mA signal. You may connect up to four frequency sensors to the MultiXtend f, the MultiXtend Thermo is available for four thermocouples of the types Pt 100, J or K.

Technical data

	MultiXtend A	MultiXtend Thermo	MultiXtend f
Input signal	0/4 ... 20 mA	Pt 100 / J / K	0 ... 500 kHz
A/D converter	16 bit	16 bit	–
Scan rate	200 Hz	100 Hz	1,000 ms *
Error limits	0.01 % v. EW	0.01 K	± 1 Hz *
Operation / storage temperature	-40 ... +85 °C / -50 ... +140 °C		
Protection type	IP 65 (all cables screwed)		
Casing	Aluminium die casting		
Dimensions	125 x 57 x 80 mm (L x W x H)		

* Gate time measurement: measuring accuracy depends on set gate time; at gate time 1,000 ms (default) the measuring accuracy is ± 1 Hz, at gate time 100 ms it is ± 10 Hz

Order data

MultiXtend A • input signal 0 ... 20 mA (with jacks)	3160-00-00.72A0B
MultiXtend A • input signal 0 ... 20 mA (with cable screwings)	3160-00-00.72A0
MultiXtend A • input signal 4 ... 20 mA (with jacks)	3160-00-00.72A4B
MultiXtend A • input signal 4 ... 20 mA (with cable screwings)	3160-00-00.72A4
MultiXtend f • 4 x frequency channels	3160-00-00.77
MultiXtend Thermo • 4x thermocouple type J (with cable screwings)	3160-00-00.73J
MultiXtend Thermo • 4x thermocouple type J, jack „Mini"	3160-00-00.73JB
MultiXtend Thermo • 4x thermocouple type K (with cable screwings)	3160-00-00.73K
MultiXtend Thermo • 4x thermocouple type K, jack „Mini"	3160-00-00.73KB
MultiXtend Thermo • 4x thermocouple type Pt 100	3160-00-00.73PT

Accessories

CAN connection cable for MultiSystem 8050, 5.0 m	8824-N1-05.00
CAN connection cable for MultiSystem 5060, 5.0 m	8824-M5-05.00
CAN connection cable for MultiSystem 5060 Plus and 4010, 5.0 m	8824-R7-05.00
CAN power supply, power pack in table version	8812-00-00.34
CAN Y distributor, M12 x 1	8808-50-01.01

MultiXtend Extension Modules

MultiXtend Split

Galvanically separated signal splitter for analog sensors, absolutely free of potential and reaction-less. You may e.g. connect a mounted pressure sensor to a machine control and grip its signal for diagnostic purposes.

Input signal	0/4 ... 20 mA
Supply voltage	12 ... 30 V DC
Current consumption at OUT 2	30 mA (without signal)
Linearity error	± 0.3 % FS (at 23 °C, loop resistor 10 Ω)
Warm-up time	5 min.
Operation / storage temperature	-20 ... +85 °C / -40 ... +125 °C
Dimensions	120 x 84 x 44.5 mm (L x W x H)

MultiXtend Split	316A-00-00.40
Connection cable for measuring instruments, 5.0 m (measuring cable MKS 03)	8824-S1-05.00S

MultiXtend Trigger

Box to distribute a trigger signal to up to four measuring systems. This allows to run synchro-nised recordings on up to 96 channels that can be combined later at a PC using **HYDRO**com.

Input signal	Hydrotechnik-specific trigger signal
Supply voltage	not required
Protection type	IP 40
Operation / storage temperature	-40 ... +85 °C
Dimensions	120 x 75 x 44.5 mm (L x W x H)

MultiXtend Trigger	316A-00-00.50
Trigger cable for connection to measuring systems, 0.5 m	8824-F2-00.50

MultiXtend   Extension Modules

MultiXtend Thermo

Box to connect a thermocouple of the types J or K to an analog input of the measuring instrument.

Input signal	thermocouple type J or K
Supply voltage	7 ... 30 V DC
Current consumption	20 mA (without signal)
Linearity error	± 0.1 % FS (at 23 °C, loop resistor 10 Ω)
Operation / storage temperature	-40 ... +85 °C
Dimensions	120 x 82 x 44.5 mm (L x W x H)

MultiXtend Thermo, type J	316A-00-00.70
MultiXtend Thermo, type K	316A-00-00.75
Connection cable for measuring instruments, 5.0 m (measuring cable MK 01)	8824-S1-05.00S

MultiXtend f

Box to connect a frequency sensor to a measuring instrument. The sensor signal is digitised and transmitted via CAN bus. May also be used to feed the signal into a standard CAN bus.

Input signal	10 Hz ... 4 kHz
Scan rate	50 Hz
Error limits	± 0.1 % of final value
Operation / storage temperature	-40 ... +85 °C
Dimensions	120 x 82 x 44.5 mm (L x W x H)

MultiXtend f	316A-00-00.60
CAN connection cable for MultiSystem 8050, 5.0 m	8824-N1-05.00
CAN connection cable for MultiSystem 5060 Plus and 4010, 5.0 m	8824-R7-05.00
CAN power supply, power pack in table version	8812-00-00.34
CAN Y distributor, M12 x 1	8808-50-01.01
CAN terminal resistor 120 Ω	8872-02-01.01

MultiXtend Extension modules

MultiXtend NPN

Converts the NPN output signal of a frequency sensor into a PNP signal that can be fed into Hydrotechnik measuring instruments.

Input signal	NPN frequency signal
Supply voltage	14 ... 30 V DC
Current consumption	6 mA (without sensor)
NPN feed voltage / current	10 ... 12 VDC / 2 ... 50 mA
Operation / storage temperature	-20 ... +85 °C / -30 ... +90 °C
Dimensions	120 x 82 x 44.5 mm (L x W x H)

MultiXtend NPN	316A-00-00.80
Connection cable to measuring instruments, 5.0 m (measuring cable MK 01)	8824-S1-05.00S

MultiMeter

✓ Measure electrical measurands
✓ Data transfer to RS 232 interface
✓ Only suited for MultiSystem 5060 Plus and MultiSystem 4010
✓ Technical data on request

MultiMeter Voltcraft, type VC 920 (with connection cable to MultiSystem)	8877-00-04.00
MultiMeter Voltcraft, type VC 940 (with connection cable to MultiSystem)	8877-00-05.00
MultiMeter Voltcraft, type VC 960 (with connection cable to MultiSystem)	8877-00-06.00

MultiXtend   Mounting Systems

The cap rail system is ideal to mount MultiXtend extension modules at the instruments MultiSystem 5060 Plus and MultiSystem 4010. Also suited for the switchboard installation.

✓ Fix cap rail and clip

✓ Mount MultiXtend at the rearside of the measuring instrument ...

✓ ... or install it in a switchboard cabinet

Mounting set: cap rail, clip, screws	8854-00-00.02
Velcro tape mounting set: 5 pieces	8854-00-00.13

Use our velcro tape mounting set for the fast and firm installation of the MultiXtend at measuring systems or other objects.

HySense® Sensors

Pressure sensors

PR

PR 100

Robust sensor, especially for mobile use; million-fold proven

Used in | Measuring Set A

PR 101

Version with direct connector for a quicker coupling

Measuring Set B

NEU
PR 400

Fast sensor for demanding measuring tasks

Measuring Set C

PR 109

Sensor with measuring cable for the MultiHandy 2020

Measuring Set D

Temperature sensors

TE **TP**

TE 10b

Robust sensor, especially for mobile use

Used in | Meas. Set A / B / C

TE 200

Hand sensor with different measuring tips
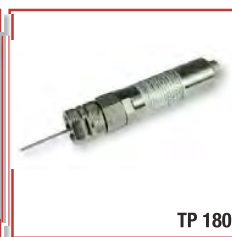
TP 180

Combined sensor for pressure + temperature

Volume flow rate sensors

QT **QG**

QT 1xx

Proven measuring turbine for mineral oils, bi-directional measuring possible

Used in | Meas. Set A / B / C

QT 2xx

Proven measuring turbine for watery media, bi-directional measuring possible

QG 1xx

Gear flow meter for a broad viscosity range

Further sensors

QL **QO** **RS**

QL

Load valves to determine the characteristic curves of pumps

QO

Oval wheel counter for small volume flow rates

RS

Rotational speed sensors

More sensors are contained in our sensor catalog