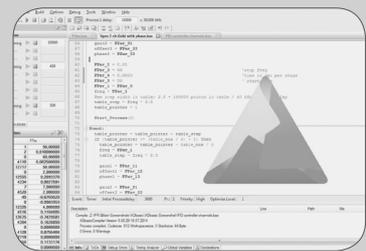
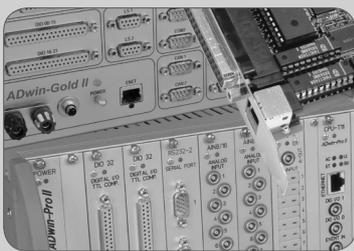
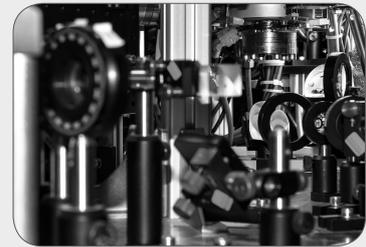
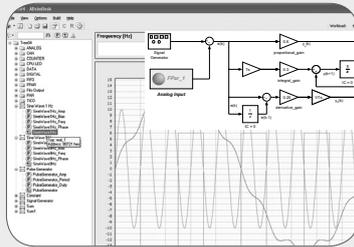


# ADwin

## Product list



# Product List

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Technical modifications are subject to change.



**JÄGER**

Computergesteuerte  
Messtechnik GmbH

Rheinstrasse 2-4  
64653 Lorsch, Germany

Phone: +49 6251-9632-0  
Fax: +49 6251-9632-99  
info@ADwin.de  
www.ADwin.de

## ADwin-X-A20

### ADwin-X-A20

<b>ADwin-X-A20-M1</b>	CPU ZYNQ, ARM Dual Cortex-A9, 667MHz, 64-bit FPU, 1GB RAM Ethernet to the PC, 1x Event, 8x TTL-IO, 1x LS-Bus (chassis 215x125x47) 8 analog inputs $\pm 10V$ 18-bit ADC (MUX 5 $\mu s$ ) 2 analog outputs $\pm 10V$ 16-bit DAC (3 $\mu s$ ), supply voltage range 10-28V
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### ADwin-X-A20 Options

<b>A20-F</b>	<b>ADC TIME SYNCHRONOUS</b> (5 $\mu s$ for 8 analog inputs)
<b>A20-D</b>	2x CNT-D counters 32-bit up/down, period, clock, 1x SSI (7x RS422, 2x RS485)
<b>A20-DCT</b>	2x CNT-D counters 32-bit up/down, period, clock, 1x SSI (7x RS422, 2x RS485) 32TTL-IO, 2x CNT-T, FIFO 64-bit 12x IO 30V/2 $\mu s$ switching threshold 0-5V, 2x CNT-C
<b>A20-COM</b>	2x CAN, 1x RS232
<b>A20-Profibus-SL</b>	1x Profibus-DP slave interface, 9pin DSub
<b>A20-EtherCAT-SL</b>	1x EtherCAT slave interface, RJ45 connector
<b>A20-Boot</b>	Bootloader for stand-alone operation without PC

### Accessories

<b>A20-Mount</b>	DIN-rail installation kit for the <b>ADwin-A20</b> system
<b>A20-Pow</b>	External power supply 12V DC for <b>ADwin-A20</b>
<b>A20-Pow-Mount</b>	External power supply 12V DC for mounting on DIN-rail, for <b>ADwin-A20</b>
<b>HSM-24V</b>	32 digital I/Os, 24V level, configurable in groups of 8 DIN-rail module for LS-Bus interface, screw-type connector
<b>ADbasic</b>	Fast real-time development tool for <b>ADwin</b> systems, <b>version 6</b>

## ADwin-Gold II

### ADwin-Gold II

<b>ADwin-Gold II</b>	1 processor ADSP, 32-bit, 300MHz, 768KB int./256MB ext. RAM, 1 x event input 16 analog inputs $\pm 10V$ multiplexed to 2x 18-bit ADC (2 $\mu$ s) 2 analog outputs $\pm 10V$ , 16-bit DAC (3 $\mu$ s) 16 digital inputs, 16 digital outputs 1 <b>TiCo</b> processor 50 MHz 56kB RAM, input FIFO 2x LS-Bus, Ethernet interface to the PC supply voltage range 10-28V
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### ADwin-Gold II Options (Options for the standard system, later upgrading is not possible)

<b>Gold II-CNT</b>	4x 32-bit up/down counters/period (RS422), 4-edge evaluation, clock/direction, simultaneous period width measurement 4x SSI decoders, 6x PWM outputs
<b>Gold II-CAN</b>	2x CAN-Bus, 2x RS232/485
<b>Gold II-CAN-LS</b>	2x CAN-Bus (Low-Speed), 2x RS232/485
<b>Gold II-DA4</b>	Expansion to a total of 4 analog outputs, 16-bit DAC (3 $\mu$ s)
<b>Gold II-DA8</b>	Expansion to a total of 8 analog outputs, 16-bit DAC (3 $\mu$ s)
<b>Gold II-Boot</b>	Bootloader option, for Ethernet, for stand-alone operation without PC EEPROM parameter memory, fetch / write support for S7 SPS
<b>Gold II-Storage-16</b>	Memory card 16 GB flash memory, real-time clock
<b>Gold II-Profibus</b>	1x Profibus-DP Slave interface, 9pin D-SUB socket
<b>Gold II-DeviceNet</b>	1x DeviceNet slave interface, 5pin DeviceNet screw-type connector
<b>Gold II-EtherCAT</b>	1x EtherCAT slave interface, RJ45 connector
<b>Gold II-Profinet-IO</b>	1x Profinet-IO slave interface, RJ45 connector

### Accessories

<b>Gold II-Pow</b>	External power supply 12V DC for <b>ADwin-Gold II</b>
<b>Gold II-Pow-Mount</b>	External power supply 12V DC for mounting on DIN-rail, for <b>ADwin- Gold II</b>
<b>Gold II-Mount</b>	DIN-rail installation kit for ADwin-Gold II
<b>Gold II-M-Bracket</b>	Mounting brackets for <b>ADwin-Gold II</b>
<b>HSM-24V</b>	32 digital I/Os, 24V level, configurable in groups of 8 DIN-rail module for LS-Bus interface, screw-type connector
<b>ADbasic</b>	Fast real-time development tool for <b>ADwin</b> systems, <b>version 6</b>

## ADwin-Gold

### ADwin-Gold

	<b>System features ADwin-Gold :</b> 1 processor ADSP21062, 32-bit, 40MHz, 256KB int./16MB ext. RAM, 1x event input 16 analog inputs $\pm 10V$ multiplexed to 2x 16-bit ADC (5 $\mu$ s), 2x 14-bit ADC (0.5 $\mu$ s), 2 analog outputs $\pm 10V$ 16-bit DAC (3 $\mu$ s), <b>16 digital inputs, 16 digital outputs</b> , supply voltage range 10-28V
<b>ADwin-Gold-ENET</b>	<b>ADwin-Gold</b> with Ethernet interface (10/100 MBit/s) to the PC BNC sockets for analog signals
<b>ADwin-Gold-D-ENET</b>	<b>ADwin-Gold</b> with Ethernet interface (10/100 MBit/s) to the PC D-SUB sockets for analog signals

### ADwin-Gold Options (Options for the standard system, later upgrading is not possible)

<b>Gold-CO1</b>	4x 32-bit up/down counters/period (RS422), 4-edge evaluation, clock/direction, period width measurement
<b>Gold-CAN</b>	2x CAN-Bus, 2x RS232/485, 4x SSI decoder ( <b>ADwin-Gold-D</b> )
<b>Gold-CAN-LS</b>	2x CAN-Bus Low-Speed, 2x RS232/485, 4x SSI decoder ( <b>ADwin-Gold-D</b> )
<b>Gold-DA</b>	Option: 6 additional analog outputs, 16-bit DAC (3 $\mu$ s)
<b>Gold-Boot</b>	Bootloader option, for Ethernet, for stand-alone operation without PC EEPROM parameter memory, fetch / write support for S7 SPS

### Accessories

<b>Gold-Mount</b>	DIN-rail installation kit for <b>ADwin-Gold</b>
<b>Gold-M-Bracket</b>	Mounting brackets for <b>ADwin-Gold</b>
<b>Gold-Pow</b>	External power supply 12V DC for <b>ADwin-Gold</b>
<b>ADbasic</b>	Fast real-time development tool for <b>ADwin</b> systems, <b>version 6</b>

## ADwin-light-16

### ADwin-light-16

	<b>System features ADwin-L16:</b> 1 processor ADSP21062, 32-bit, 40MHz, 256KB / 16MB RAM, 1x event input, 8 analog inputs $\pm 10V$ multiplexed to 16-bit ADC (2 $\mu$ s), 2 analog outputs $\pm 10V$ 16-bit DAC (3 $\mu$ s), 6 (4) digital inputs, 6 digital outputs, 2x 32-bit impulse counters (TTL), 1x LS-Bus
<b>ADwin-L16-EXT-ENET</b>	<b>ADwin-L16</b> in an external industrial enclosure (226x109x74 mm) Ethernet interface to the PC, supply voltage range 10-28V
<b>ADwin-L16-EURO-ENET</b>	<b>ADwin-L16</b> as Euro-size board 10HP Ethernet interface to the PC

### ADwin-light-16 Options (Options for the standard system, later upgrading is not possible)

<b>L16-DIO1</b>	1x CAN-Bus, 32 TTL-I/Os configurable in groups of 8, 2x 32-bit up/down counters/period (RS422), SSI decoder
<b>L16-DIO1-LS</b>	1x CAN-Bus Low-Speed, 32 TTL-I/Os configurable in groups of 8, 2x 32-bit up/down counters/period (RS422), SSI decoder
<b>L16-DIO2</b>	32 TTL-I/Os configurable in groups of 8, 2x 32-bit up/down counters/period (1x TTL, 1x RS422), SSI decoder
<b>L16-DIO3</b>	32 TTL-I/Os configurable in groups of 8
<b>L16-PWM1</b>	1x PWM output, 1x SPI master
<b>L16-CO1</b>	1x 32-bit up/down counter (TTL), 4-edge evaluation instead of 2x 32-bit impulse counters (TTL), <b>(not with L16-DIO1, L16-DIO2 options)</b>
<b>L16-Boot</b>	Bootloader option for Ethernet, for stand-alone operation without PC EEPROM parameter memory, fetch / write support for S7 SPS

### Accessories

<b>L16-Mount</b>	DIN-rail installation kit for the <b>ADwin-L16-EXT</b> system
<b>L16-M-Bracket</b>	Mounting brackets for <b>ADwin-L16</b>
<b>L16-Pow</b>	External power supply 12V DC for <b>ADwin-L16</b>
<b>L16-Pow-Mount</b>	External power supply for mounting on DIN-rail, 12V DC for <b>ADwin-L16</b>
<b>HSM-24V</b>	32 digital I/Os, 24V level, configurable in groups of 8 DIN-rail module for LS-Bus interface, screw-type connector
<b>ADbasic</b>	Fast real-time development tool for <b>ADwin</b> systems, version 6

<b>System dimensions with L16-DIO1+DIO2:</b> ADwin-L16-EXT-ENET 226x109x104 mm	ADwin-L16-EURO-ENET 20HP wide		
<b>System dimensions with L16-DIO3</b> ADwin-L16-EXT-ENET 226x109x104 mm	ADwin-L16-EURO-ENET 15HP wide		

## ADwin-Pro II

<b>Processors + Options</b> (Options, later upgrading is not possible)	
<b>Pro-CPU-T12-ENET</b>	Processor ZYNQ, ARM Dual Cortex-A9, 1GHz, 64-bit FPU, 1GB RAM Gigabit Ethernet for communication with the PC, 1x Event, ( <b>Pro-II-Bus only</b> )
<b>Pro-CPU-T11-ENET</b>	1 processor ADSP, 32-bit, 300MHz, 768KB int./256MB ext. RAM, 1x event input, 1 Ethernet interface (10/100MBit/s) for communication with the PC
<b>Pro II-Boot</b>	Bootloader option, for Ethernet, for stand-alone operation without PC EEPROM parameter memory, fetch / write support for S7 SPS
<b>Pro II-Boot-USB</b>	<b>USB flash memory, min. 16GB</b> Bootloader option, for Ethernet, for stand-alone operation without PC EEPROM parameter memory, fetch / write support for S7 SPS
<b>Pro II-Boot-SSD</b>	<b>Solid state memory, SSD, min. 240GB</b> Bootloader option, for Ethernet, for stand-alone operation without PC EEPROM parameter memory, fetch / write support for S7 SPS, 10HP
<b>Pro II-Boot-SSD-RMV</b>	<b>Solid state memory, SSD, min. 240GB, removable</b> Bootloader option, for Ethernet, for stand-alone operation without PC EEPROM parameter memory, fetch / write support for S7 SPS, 10HP
<b>Pro II-Boot-HDD</b>	<b>Hard disk memory, HDD, min. 1TB</b> Bootloader option, for Ethernet, for stand-alone operation without PC EEPROM parameter memory, fetch / write support for S7 SPS, 10HP
<b>Pro II-Boot-HDD-RMV</b>	<b>Hard disk memory, HDD, min. 1TB, removable</b> Bootloader option, for Ethernet, for stand-alone operation without PC EEPROM parameter memory, fetch / write support for S7 SPS, 10HP

<b>Enclosures</b>	
<b>ADwin-Pro II</b>	19" enclosure (84 HP, 3U), AC power supply 115/230V 14-16 slots, desktop unit, all modules mounted from the frontside
<b>ADwin-Pro II-BM</b>	19" enclosure (84HP, 3U), AC power supply 115/230V 13-15 slots, desktop unit, all modules mounted from the backside
<b>ADwin-Pro II-DC</b>	19" enclosure (84HP, 3U), DC-DC converter 10-35V 14-16 slots, desktop unit, all modules mounted from the frontside
<b>ADwin-Pro II-light</b>	½ 19" enclosure (42HP, 3U), AC power supply 115/230V 7 slots, desktop unit, all modules mounted from the frontside
<b>ADwin-Pro II-light-DC</b>	½ 19" enclosure(42HP, 3U), DC-DC converter 10-35V 7 slots, desktop unit, all modules mounted from the frontside
<b>ADwin-Pro II-mini</b>	Enclosure (25HP, 3U), DC-DC converter 10-35V 4-5 slots, desktop unit, all modules mounted from the frontside

## ADwin-Pro II

### Analog Inputs with Multiplexer

<b>Pro II-Aln-32/18-D</b>	32 SE or 16 diff. analog inputs $\pm 10V$ , isolated by optocouplers 18-bit ADC (2 $\mu$ s), MUX 2 $\mu$ s, block measurement, limit monitoring, DSub
<b>Pro II-Aln-32/18-D-TiCo</b>	32 SE or 16 diff. analog inputs $\pm 10V$ , isolated by optocouplers, <b>TiCo</b> , 18-bit ADC (2 $\mu$ s), MUX 2 $\mu$ s, block measurement, limit monitoring, DSub
<b>Pro II-Aln-8/18</b>	8 analog inputs $\pm 10V$ 18-bit ADC (2 $\mu$ s), MUX 2 $\mu$ s, block measurement, limit monitoring, LEMO-1pin
<b>Pro II-Aln-8/18-D</b>	8 analog inputs $\pm 10V$ 18-bit ADC (2 $\mu$ s), MUX 2 $\mu$ s, block measurement, limit monitoring, DSub
<b>Pro II-Aln-8/18-B</b>	8 analog inputs $\pm 10V$ 18-bit ADC (2 $\mu$ s), MUX 2 $\mu$ s, block measurement, limit monitoring, BNC, 10HP
<b>Pro II-Aln-8/18-8B</b>	16 analog inputs (8x <b>8B signal conditioning</b> ) 18-bit ADC (2 $\mu$ s), block measurement, limit monitoring, DSub, 15HP
<b>Pro II-Aln-16/18-8B</b>	16 analog inputs (16x <b>8B signal conditioning</b> ) 18-bit ADC (2 $\mu$ s), block measurement, limit monitoring, DSub, 15HP
<b>Pro II-Aln-16/18-C</b>	16 diff. <b>current inputs</b> $\pm 20mA$ , 500 $\Omega$ Shunt (0.05%, TK10), 18-bit ADC (2 $\mu$ s), MUX 2 $\mu$ s, block measurement, limit monitoring, DSub

### Analog Inputs with Multiplexer, with Filter, $\pm 10V$ / $\pm 30V$

<b>Pro II-Aln-8/18-LP5</b>	8 analog inputs, cut-off frequency <b>5kHz</b> , low-pass 4th order Butterworth 18-bit ADC (2 $\mu$ s), MUX 2 $\mu$ s, block measurement, limit monitoring measurement range $\pm 10V$ , LEMO-1pin, 10HP
<b>Pro II-Aln-8/18-LP5-D</b>	8 analog inputs, cut-off frequency <b>5kHz</b> , low-pass 4th order Butterworth 18-bit ADC (2 $\mu$ s), MUX 2 $\mu$ s, block measurement, limit monitoring measurement range $\pm 10V$ , Dsub, 10HP
<b>Pro II-Aln-8/18-LP50-TiCo</b>	8 analog inputs, cut-off frequency <b>50kHz</b> , low-pass 4th order Butterworth 18-bit ADC (2 $\mu$ s), MUX 2 $\mu$ s, block measurement, limit monitoring measurement range $\pm 10V$ , LEMO-1pin, 10HP, <b>TiCo</b>
<b>Pro II-Aln-8/18-LP50-D-TiCo</b>	8 analog inputs, cut-off frequency <b>50kHz</b> , low-pass 4th order Butterworth 18-bit ADC (2 $\mu$ s), MUX 2 $\mu$ s, block measurement, limit monitoring measurement range $\pm 10V$ , Dsub, 10HP, <b>TiCo</b>
<b>Pro II-Aln-8/18-LP-30V</b>	8 analog inputs, cut-off frequency <b>10kHz</b> , low-pass 4th order Butterworth 18-bit ADC (2 $\mu$ s), MUX 2 $\mu$ s, block measurement, limit monitoring measurement range <b><math>\pm 30V</math></b> , LEMO-1pin, 10HP
<b>Pro II-Aln-8/18-LP-30V-D</b>	8 analog inputs, cut-off frequency <b>10kHz</b> , low-pass 4th order Butterworth 18-bit ADC (2 $\mu$ s), MUX 2 $\mu$ s, block measurement, limit monitoring measurement range <b><math>\pm 30V</math></b> , DSub, 10HP
<b>Pro II-Aln-8/18-LP-30V-TiCo</b>	8 analog inputs, cut-off frequency <b>10kHz</b> , low-pass 4th order Butterworth 18-bit ADC (2 $\mu$ s), MUX 2 $\mu$ s, block measurement, limit monitoring measurement range <b><math>\pm 30V</math></b> , LEMO-1pin, 10HP, <b>TiCo</b>
<b>Pro II-Aln-8/18-LP-30V-D-TiCo</b>	8 analog inputs, cut-off frequency <b>10kHz</b> , low-pass 4th order Butterworth 18-bit ADC (2 $\mu$ s), MUX 2 $\mu$ s, block measurement, limit monitoring measurement range <b><math>\pm 30V</math></b> , DSub, 10HP, <b>TiCo</b>

## ADwin-Pro II

### Analog Inputs, Parallel Acquisition, 16-bit

<b>Pro II-Aln-F-4/16</b>	4 analog inputs $\pm 10V$ , <b>4x 16-bit ADC (250 ns)</b> , <b>256MB RAM</b> averaging, min-/max, limit monitoring, LEMO-1pin
<b>Pro II-Aln-F-4/16-D</b>	4 analog inputs $\pm 10V$ , <b>4x 16-bit ADC (250 ns)</b> , <b>256MB RAM</b> averaging, min-/max, limit monitoring, DSub
<b>Pro II-Aln-F-4/16-B</b>	4 analog inputs $\pm 10V$ , <b>4x 16-bit ADC (250 ns)</b> , <b>256MB RAM</b> averaging, min-/max, limit monitoring, BNC
<b>Pro II-Aln-F-4/16-L2</b>	4 analog inputs $\pm 10V$ , <b>4x 16-bit ADC (250 ns)</b> , <b>256MB RAM</b> averaging, min-/max, limit monitoring, LEMO-2pin
<b>Pro II-Aln-F-8/16</b>	8 analog inputs $\pm 10V$ , <b>8x 16-bit ADC (250 ns)</b> , <b>256MB RAM</b> averaging, min-/max, limit monitoring, LEMO-1pin
<b>Pro II-Aln-F-8/16-D</b>	8 analog inputs $\pm 10V$ , <b>8x 16-bit ADC (250 ns)</b> , <b>256MB RAM</b> averaging, min-/max, limit monitoring, DSub
<b>Pro II-Aln-F-8/16-B</b>	8 analog inputs $\pm 10V$ , <b>8x 16-bit ADC (250 ns)</b> , <b>256MB RAM</b> averaging, min-/max, limit monitoring, BNC, 10HP
<b>Pro II-Aln-F-8/16-L2</b>	8 analog inputs $\pm 10V$ , <b>8x 16-bit ADC (250 ns)</b> , <b>256MB RAM</b> averaging, min-/max, limit monitoring, LEMO-2pin

### Analog Inputs, Parallel Acquisition, 16-bit, with Filter, $\pm 10V$ / $\pm 30V$

<b>Pro II-Aln-F-8/16-LP50</b>	8 analog inputs, cut-off frequency <b>50kHz</b> , low-pass 4th order Butterworth 8x 16-bit ADC (250ns), averaging, min-/max, limit monitoring, <b>256MB RAM</b> measurement range $\pm 10V$ , LEMO-1pin, 10HP
<b>Pro II-Aln-F-8/16-LP50-D</b>	8 analog inputs, cut-off frequency <b>50kHz</b> , low-pass 4th order Butterworth 8x 16-bit ADC (250ns), averaging, min-/max, limit monitoring, <b>256MB RAM</b> measurement range $\pm 10V$ , DSub, 10HP
<b>Pro II-Aln-F-8/16-LP50-B</b>	8 analog inputs, cut-off frequency <b>50kHz</b> , low-pass 4th order Butterworth 8x 16-bit ADC (250ns), averaging, min-/max, limit monitoring, <b>256MB RAM</b> measurement range $\pm 10V$ , BNC, 10HP
<b>Pro II-Aln-F-8/16-LP50-L2</b>	8 analog inputs, cut-off frequency <b>50kHz</b> , low-pass 4th order Butterworth 8x 16-bit ADC (250ns), averaging, min-/max, limit monitoring, <b>256MB RAM</b> measurement range $\pm 10V$ , LEMO-2pin, 10HP
<b>Pro II-Aln-F-8/16-LP-30V</b>	8 analog inputs, cut-off frequency <b>10kHz</b> , low-pass 4th order Butterworth 8x 16-bit ADC (250ns), averaging, min-/max, limit monitoring, <b>256MB RAM</b> measurement range $\pm 30V$ , LEMO-1pin, 10HP
<b>Pro II-Aln-F-8/16-LP-30V-D</b>	8 analog inputs, cut-off frequency <b>10kHz</b> , low-pass 4th order Butterworth 8x 16-bit ADC (250ns), averaging, min-/max, limit monitoring, <b>256MB RAM</b> measurement range $\pm 30V$ , DSub, 10HP
<b>Pro II-Aln-F-8/16-LP-30V-B</b>	8 analog inputs, cut-off frequency <b>10kHz</b> , low-pass 4th order Butterworth 8x 16-bit ADC (250ns), averaging, min-/max, limit monitoring, <b>256MB RAM</b> measurement range $\pm 30V$ , BNC, 10HP
<b>Pro II-Aln-F-8/16-LP-30V-L2</b>	8 analog inputs, cut-off frequency <b>10kHz</b> , low-pass 4th order Butterworth 8x 16-bit ADC (250ns), averaging, min-/max, limit monitoring, <b>256MB RAM</b> measurement range $\pm 30V$ , LEMO-2pin, 10HP

## ADwin-Pro II

### Analog Inputs, Parallel Acquisition, 14-bit

<b>Pro II-AIn-F-4/14</b>	4 analog inputs $\pm 10V$ , <b>4x 14-bit ADC</b> , <b>4x50MHz</b> , <b>256MB RAM</b> averaging, limit monitoring, LEMO-1pin
<b>Pro II-AIn-F-4/14-D</b>	4 analog inputs $\pm 10V$ , <b>4x 14-bit ADC</b> , <b>4x50MHz</b> , <b>256MB RAM</b> averaging, limit monitoring, DSub
<b>Pro II-AIn-F-4/14-B</b>	4 analog inputs $\pm 10V$ , <b>4x 14-bit ADC</b> , <b>4x50MHz</b> , <b>256MB RAM</b> averaging, limit monitoring, BNC
<b>Pro II-AIn-F-4/14-L2</b>	4 analog inputs $\pm 10V$ , <b>4x 14-bit ADC</b> , <b>4x50MHz</b> , <b>256MB RAM</b> averaging, limit monitoring, LEMO-2pin
<b>Pro II-AIn-F-8/14</b>	8 analog inputs $\pm 10V$ , <b>8x 14-bit ADC</b> , <b>8x25MHz</b> , <b>256MB RAM</b> averaging, limit monitoring, LEMO-1pin, 10HP
<b>Pro II-AIn-F-8/14-D</b>	8 analog inputs $\pm 10V$ , <b>8x 14-bit ADC</b> , <b>8x25MHz</b> , <b>256MB RAM</b> averaging, limit monitoring, DSub, 10HP
<b>Pro II-AIn-F-8/14-B</b>	8 analog inputs $\pm 10V$ , <b>8x 14-bit ADC</b> , <b>8x25MHz</b> , <b>256MB RAM</b> averaging, limit monitoring, BNC, 10HP
<b>Pro II-AIn-F-8/14-L2</b>	8 analog inputs $\pm 10V$ , <b>8x 14-bit ADC</b> , <b>8x25MHz</b> , <b>256MB RAM</b> averaging, limit monitoring, LEMO-2pin, 10HP

### Analog Inputs, Parallel Acquisition, 18-bit

<b>Pro II-AIn-F-4/18</b>	4 analog isolated inputs $\pm 10V$ , <b>4x 18-bit ADC</b> (2 $\mu$ s), limit monitoring, LEMO-1pin
<b>Pro II-AIn-F-4/18-D</b>	4 analog isolated inputs $\pm 10V$ , <b>4x 18-bit ADC</b> (2 $\mu$ s), limit monitoring, DSub
<b>Pro II-AIn-F-4/18-B</b>	4 analog isolated inputs $\pm 10V$ , <b>4x 18-bit ADC</b> (2 $\mu$ s), limit monitoring, BNC
<b>Pro II-AIn-F-4/18-L2</b>	4 analog isolated inputs $\pm 10V$ , <b>4x 18-bit ADC</b> (2 $\mu$ s), limit monitoring, LEMO-2pin
<b>Pro II-AIn-F-8/18</b>	8 analog isolated inputs $\pm 10V$ , <b>8x 18-bit ADC</b> (2 $\mu$ s), limit monitoring, LEMO-1pin
<b>Pro II-AIn-F-8/18-D</b>	8 analog isolated inputs $\pm 10V$ , <b>8x 18-bit ADC</b> (2 $\mu$ s), limit monitoring, DSub
<b>Pro II-AIn-F-8/18-B</b>	8 analog isolated inputs $\pm 10V$ , <b>8x 18-bit ADC</b> (2 $\mu$ s), limit monitoring, BNC, 10HP
<b>Pro II-AIn-F-8/18-L2</b>	8 analog isolated inputs $\pm 10V$ , <b>8x 18-bit ADC</b> (2 $\mu$ s), limit monitoring, LEMO-2pin

## ADwin-Pro II

Analog Outputs	
<b>Pro II-AOut-4/16</b>	4 analog outputs $\pm 10V$ , 16-bit DAC (3 $\mu s$ ), LEMO-1pin
<b>Pro II-AOut-4/16-L2</b>	4 analog outputs $\pm 10V$ , 16-bit DAC (3 $\mu s$ ), LEMO-2pin
<b>Pro II-AOut-4/16-D</b>	4 analog outputs $\pm 10V$ , 16-bit DAC (3 $\mu s$ ), DSub
<b>Pro II-AOut-4/16-B</b>	4 analog outputs $\pm 10V$ , 16-bit DAC (3 $\mu s$ ), BNC
<b>Pro II-AOut-4/16-TiCo</b>	4 analog outputs $\pm 10V$ , 16-bit DAC (3 $\mu s$ ), LEMO-1pin, <b>TiCo</b>
<b>Pro II-AOut-4/16-D-TiCo</b>	4 analog outputs $\pm 10V$ , 16-bit DAC (3 $\mu s$ ), Dsub, <b>TiCo</b>
<b>Pro II-AOut-8/16</b>	8 analog outputs $\pm 10V$ , 16-bit DAC (3 $\mu s$ ), LEMO-1pin
<b>Pro II-AOut-8/16-L2</b>	8 analog outputs $\pm 10V$ , 16-bit DAC (3 $\mu s$ ), LEMO-2pin
<b>Pro II-AOut-8/16-D</b>	8 analog outputs $\pm 10V$ , 16-bit DAC (3 $\mu s$ ), DSub
<b>Pro II-AOut-8/16-B</b>	8 analog outputs $\pm 10V$ , 16-bit DAC (3 $\mu s$ ), BNC, 10HP
<b>Pro II-AOut-8/16-TiCo</b>	8 analog outputs $\pm 10V$ , 16-bit DAC (3 $\mu s$ ), LEMO-1pin, <b>TiCo</b>
<b>Pro II-AOut-8/16-D-TiCo</b>	8 analog outputs $\pm 10V$ , 16-bit DAC (3 $\mu s$ ), Dsub, <b>TiCo</b>
<b>Pro II-AOut-1/16</b>	1x analog output, 50 MHz, $\pm 2V$ to 50 $\Omega$ , isolated 15ns FSR, ramp interpolation TTL I/Os 16+16, <b>TiCo 256MB</b> arbitrary DRAM, 10HP

## Multi I/O Modules and Options

<b>Pro II-MIO-4</b>	16 SE or 8 diff. analog inputs $\pm 10V$ , 18-bit ADC (2 $\mu s$ ), MUX 5 $\mu s$ 4 analog outputs, 16-bit DAC (9 $\mu s$ ), 2x4 TTL I/Os <b>TiCo</b> 128KB / 4MB RAM, DSub
<b>Pro II-MIO-4-ET1</b>	16 SE or 8 diff. analog inputs $\pm 10V$ , 18-bit ADC (2 $\mu s$ ), MUX 5 $\mu s$ , 4 analog outputs, 16-bit DAC (9 $\mu s$ ), 2x4 TTL I/Os <b>TiCo</b> 128KB / 4MB RAM 4x transistor outputs, isolated by optocouplers, 4x 200mA 4x optically isolated digital inputs, 5V-12V-24V, 1x GND 1x 32-bit up/down counter/period (RS422), 4-edge evaluation, clock/direction, simultaneous period width measurement 1x SSI decoder, 1x EtherCAT slave, DSub, 10HP

## Signal Conditioning Modules

<b>Pro II-RTD-8</b>	8 inputs for Pt100, Pt500, Pt1000, LEMO connector to the sensor, 10 HP
<b>Pro II-RTD-8-D</b>	8 inputs for Pt100, Pt500, Pt1000, Dsub connector to the sensor
<b>Pro II-TC-8-ISO</b>	8x thermocouple inputs, <b>isolated</b> , filter at 5 Hz 8x 16-bit, types -B, -E, -K, -J, -R, -S, -T
<b>Pro II-Aln-8-ISO-mV</b>	8x analog inputs $\pm 75mV$ , isolated, filter at 6 Hz-3.5kHz max. common-mode voltage $\pm 25V$ , approx. 3 $\mu V$ resolution, Dsub

## ADwin-Pro II

Digital I/Os	
<b>Pro II-DIO-32</b>	32 TTL I/Os configurable in groups of 8, input FIFO
<b>Pro II-DIO-32-TiCo</b>	32 TTL I/Os configurable in groups of 8, <b>TiCo 256MB</b> ext., input/output FIFO
<b>Pro II-DIO-32/1-TiCo</b>	32 TTL-I/Os individually configurable <b>TiCo</b> , input/output FIFO
<b>Pro II-MIO-D12</b>	12 transistor outputs, 12x 200mA, isolated by optocouplers 12 digital inputs, U <sub>IN</sub> 5V-12V-24V, isolated by optocouplers 2x 32-bit up/down counters, 4-edge evaluation, (1x RS422, 1x 5V-12V-24V) 1x SSI decoder, <b>TiCo</b> , input/output FIFO
<b>Pro II-DIO-32-TiCo-2</b>	32 TTL-I/Os, configurable in groups of 8 <b>TiCo-2</b> 100MHz 640kB int., input/output FIFO 200MHz / 2047 values
<b>Pro II-COMP-16</b>	16 inputs, -1 to 30V (max. -2 to 32V), 50 MHz comparator input 100 MHz input FIFO, 511 value pairs, filter function switching threshold adjustable via 4x DAC
<b>Pro II-OPT-16</b>	16 digital inputs with optocouplers, U <sub>IN</sub> 5V-12V-24V , 16x GND
<b>Pro II-OPT-32-24V</b>	32 digital inputs with optocouplers, input voltage 24V , 1x GND
<b>Pro II-TRA-16</b>	16 transistor outputs, isolated by optocouplers , 16x 200mA
<b>Pro II-TRA-16-G</b>	16 transistor outputs, isolated by optocouplers , 16x 200mA, low-side
<b>Pro II-REL-16</b>	16 relais outputs, 16x 500mA
<b>Pro II-LS-2</b>	2x LS bus interface, <b>TiCo</b>
<b>HSM-24V</b>	32 digital I/Os, 24V level, configurable in groups of 8 DIN-rail module for LS-Bus interface, screw-type connector
Counters	
<b>Pro II-CNT-D</b>	4x 32-bit up/down counters/period (RS422), 4-edge evaluation, clock/direction, simultaneous period width measurement, <b>2x SSI decoder, TiCo</b>
<b>Pro II-CNT-T</b>	4x 32-bit up/down counters/period (TTL), 4-edge evaluation, clock/direction, simultaneous period width measurement, <b>TiCo</b>
<b>Pro II-CNT-I</b>	4x 32-bit up/down counters/period (5V-12V-24V, isolated by optocouplers, 4-edge evaluation, clock/direction, simultaneous period width measurement, <b>TiCo</b>
PWM	
<b>Pro II-PWM-16</b>	16x PWM, 32-bit, pulse-width modulated outputs (TTL)
<b>Pro II-PWM-16-I</b>	16x PWM, 32-bit, pulse-width modulated outputs transistor outputs, 16x 200mA, isolated by optocouplers

## ADwin-Pro II

Serial and Fieldbus Modules	
<b>Pro II-RSx-2</b>	2x RS232/485 interface, software-selectable 9pin D-SUB connector, <b>TiCo</b>
<b>Pro II-RSx-4</b>	4x RS232/485 interface, software-selectable 9pin D-SUB connector, <b>TiCo</b> , 10 HP
<b>Pro II-RS422-4</b>	4x RS422 interface, 37pin DSub connector, <b>TiCo</b>
<b>Pro II-LIN-2</b>	2x LIN-Bus, 9pin DSub connector
<b>Pro II-SENT-4</b>	4x SENSOR inputs with comparator / filter according to SENT spec. sensor power supply 5V, <b>TiCoBasic</b> program for reading of 4x SENT sensors (in) (fast channel, serial messages, error, sensor frequency, pause pulse)
<b>Pro II-SENT-6</b>	6x SENSOR inputs with comparator / filter according to SENT spec., $U_{\text{vers}} 5V$ , <b>ADbasic</b> program for reading of 6x SENT sensors, (3 $\mu$ s fast channel, serial message, error, sensor frequency, pause pulse)
<b>Pro II-SENT-4-Out</b>	4x SENSOR outputs according to SENT spec. <b>TiCoBasic</b> program for output of 4x SENT sensors (out) (fast channel, serial messages, error, sensor frequency, pause pulse)
<b>Pro II-SPI-2-T</b>	2x SPI interface (TTL), Master / Slave, max. 12.5MHz 8 (32) TTL I/Os, 37-pin DSub connector, <b>TiCo</b>
<b>Pro II-SPI-2-D</b>	2x SPI interface (RS422), Master / Slave, max. 12.5MHz 8 TTL I/Os, 4 (12) IOs (RS422), 37-pin DSub connector, <b>TiCo</b>
<b>Pro II-CAN-2</b>	2x CAN-Bus, High-Speed, 9pin DSub connector, <b>TiCo</b>
<b>Pro II-CAN-2-LS</b>	2x CAN-Bus, Low-Speed, 9pin DSub connector, <b>TiCo</b>
<b>Pro II-CAN-FD-2</b>	2x CAN-/CAN-FD-Bus, 9pin DSub connector, <b>TiCo</b>
<b>Pro II-Flex-2</b>	FlexRay interface, 2 controllers with 2 channels each, 9pin DSub socket
<b>Pro II-EtherCAT-SL</b>	EtherCAT slave interface, 16x input channels and 16x output channels, sample rate 32x10 kHz
<b>Pro II-EtherCAT-SL-40 new</b>	1x EtherCAT slave interface <b>TiCo</b> Size input and output selectable max. 1280 Bytes
<b>Pro II-PROFI-SL</b>	1x Profibus-DP slave interface, 9pin DSub socket
<b>Pro II-PROFI-SL-40 new</b>	1x Profibus-DP slave interface, 9pin DSub socket, <b>TiCo</b> Size input and output selectable max. 244 Bytes
<b>Pro II-PROFI-IRT-CU-40 new</b>	1x Profinet-IRT interface, CU-cable, <b>TiCo</b> Size input and output selectable max. 1280 Bytes
<b>Pro II-PROFI-IRT-FO-40 new</b>	1x Profinet-IRT interface, fibre optic, <b>TiCo</b> Size input and output selectable max. 1280 Bytes
<b>Pro II-MIL-1553</b>	1x MIL-STD-1553 interface, 1 MBit/s 2 bus connections, supports bus monitor 16-bit SMT
<b>Pro II-ARINC-429</b>	1x ARINC-429 interface, 1 transmitter, 2 receivers, high speed 100kHz / low speed 12.5 kHz, 25-pin Dsub connector, <b>TiCo</b>

## Software, Service

Software	
<b>ADbasic</b>	Fast real-time development tool for <b>ADwin</b> systems, <b>version 6</b>
<b>TiCoBasic</b>	Fast real-time development tool for <b>ADwin - TiCo</b>
<b>ADcandb</b>	Software for the conversion of CANdb signal forms into <b>ADbasic</b> real-time functions. (Bus monitoring, editor, CANdb viewer)
<b>ADlab</b>	Driver for MATLAB <sup>®</sup> (under Windows) for operation and visualisation of <b>ADwin</b> -systems
<b>ADsim</b>	ADsim-T11 - Simulink <sup>®</sup> -Modelle in Echtzeit auf <b>ADwin</b> <b>ADsim</b> -Desk, <b>ADwin</b> -Blockset, <b>ADwin</b> -C-Library <i>Voraussetzung: VisualDSP++ Environment 5.0 TigerSHARC<sup>®</sup>, Real-Time Workshop Embedded Coder<sup>®</sup></i>
<b>ADsim-T12</b>	ADsim-T12 - Simulink <sup>®</sup> models in real-time under <b>ADwin</b> <b>ADsim</b> -Desk, <b>ADwin</b> -Blockset, <b>ADwin</b> -C-Library
<b>ADsim-T121</b>	ADsim-T121 - Simulink <sup>®</sup> models in real-time under <b>ADwin</b> <b>ADsim</b> -Desk, <b>ADwin</b> -Blockset, <b>ADwin</b> -C-Library

## Training and Customized Software Development

<b>AD-int</b>	1 day of engineer services at our company
<b>AD-ext</b>	1 day of on-site engineer services
<b>AD-Schulung INT 1</b>	1 day of workshop / training / service at our company for 1-3 persons
<b>AD-Schulung INT 2</b>	2 days of workshop / training / service at our company for 1-3 persons
<b>AD-Schulung INT 3</b>	3 days of workshop / training / service at our company for 1-3 persons
<b>AD-Schulung EU 1</b>	1 day on-site training / service for 1-3 persons (arrival/departure max. 1 day, accommodation etc. included)
<b>AD-Schulung EU 2</b>	(arrival/departure max. 1 day, accommodation etc. included)
<b>AD-Schulung EU 3</b>	3 days of on-site training / service for 1-3 persons (arrival/departure max. 1 day, accommodation etc. included)

## Cable and Adapter Sets

LEMO 1pin		
<b>Pro-CS-1</b>	4 x 20cm (7.8 inch)	LEMO connector ↔ cable ↔ LEMO connector
	4 x 40cm (15.7 inch)	LEMO connector ↔ cable ↔ LEMO connector
<b>Pro-CS-2</b>	4 x 40cm (15.7 inch)	LEMO connector ↔ cable ↔ LEMO connector
	4 x 80cm (31.5 inch)	LEMO connector ↔ cable ↔ LEMO connector
<b>Pro-CS-3</b>	4 x 100cm (39.4 inch)	LEMO connector ↔ cable ↔ LEMO connector
	4 x 150cm (59 inch)	LEMO connector ↔ cable ↔ LEMO connector
<b>Pro-CS-4</b>	4 x 500cm (196.8 inch)	LEMO connector ↔ cable ↔ LEMO connector
<b>Pro-CS-5</b>	8 x 40cm (7.8 inch)	LEMO connector ↔ cable ↔ LEMO connector
<b>Pro-CS-6</b>	8 x 100cm (39.4 inch)	LEMO connector ↔ cable ↔ LEMO connector
<b>Pro-CS-7</b>	8 x 200cm (78.8 inch)	LEMO connector ↔ cable ↔ LEMO connector

LEMO 2pin		
<b>Pro-CS-8</b>	4 x 200cm (78.8 inch)	2pin LEMO connector ↔ cable ↔ no connector
<b>Pro-CS-9</b>	4 x 100cm (39.4 inch)	2pin LEMO connector ↔ cable ↔ 2pin LEMO connector, 4x LEMO sockets for front panel assembly included
<b>Pro-CS-10</b>	4 x 50cm (19.7 inch)	2pin LEMO connector ↔ cable ↔ 2pin LEMO connector, 4x LEMO sockets for front panel assembly included
<b>Pro-CS-11</b>	4 x 200cm (78.8 inch)	2pin LEMO connector ↔ cable ↔ 2pin LEMO connector, 4x LEMO sockets for front panel assembly included

LEMO / BNC	
<b>Pro-AS-1</b>	4x LEMO sockets ↔ BNC connector
<b>Pro-AS-3</b>	4x LEMO Y-connector (male to double female)
<b>Pro-AS-4</b>	4x LEMO sockets ↔ LEMO socket
<b>Pro-AS-5</b>	4x LEMO sockets with 50 Ω terminators
<b>Pro-AS-6</b>	4x LEMO connector ↔ cable ↔ BNC socket (length: 15cm/6")
<b>Pro-AS-7</b>	4x LEMO connector ↔ cable ↔ BNC socket (length: 100cm/3'31/2")
<b>Pro-AS-8</b>	4x LEMO connector ↔ cable ↔ BNC socket (length: 200cm/6'63/4")
<b>Pro-AS-9</b>	4x LEMO connector ↔ cable ↔ BNC connector (length: 100cm/3'31/2")
<b>Pro-AS-10</b>	4x LEMO connector ↔ cable ↔ BNC connector (length: 200cm/6'63/4")

Cables / Terminal Blocks for <b>Pro-OPT-16</b> and <b>Pro-TRA-16</b>	
<b>ADwin-Cable-1</b>	1 m extension cable, shielded, for 37pin <b>ADwin</b> DSub connectors, on one end socket, on the other a connector
<b>ADwin-Cable-2</b>	0.5 m extension cable, shielded, for 37pin <b>ADwin</b> DSub connectors, on one end socket, on the other a connector
<b>ADwin-Cable-3</b>	0.25 m extension cable, shielded, for 37pin <b>ADwin</b> DSub connectors, on one end socket, on the other a connector
<b>ADwin-AT-37M</b>	Terminal block for 37pin male DSub connectors

# General Conditions of the Company Jäger Computergesteuerte Messtechnik GmbH

The following General Conditions are contractual requirements for all agreements with the company Jäger Computergesteuerte Messtechnik GmbH (called "Jäger Messtechnik GmbH" hereafter). These terms will also be valid when a customer's order contains divergent conditions and Jäger Messtechnik GmbH does not contradict. Changes, supplementary, and second agreements need to be made in writing. The customer accepts the General Conditions when ordering the goods, at the latest however, with delivery of the goods.

These General Conditions are also valid for all development contracts which are considered accepted by Jäger Messtechnik GmbH, a supplementary agreement will be made in the case of a development contract as described below in "Conditions for Development Contracts".

Furthermore, if software is purchased we refer to the supplementary terms of the license agreement of Jäger Messtechnik GmbH.

## 1. Confirmation of Order

All offers made by Jäger Messtechnik GmbH are subject to change. All orders, also when accepted by representatives of Jäger Messtechnik GmbH, will only be binding for Jäger Messtechnik GmbH with its written confirmation of order or with delivery of the goods.

## 2. Terms of Delivery, Prices

- 2.1 Liability passes to the customer at the moment the goods are handed over for delivery.
- 2.2 If Jäger Messtechnik GmbH delivers the goods—at the customer's request—not to the customer himself but to a third party, liability and costs pass to the customer at the moment the goods are handed over to the forwarding agent.
- 2.3 The decision about the method of delivery and the choice of the means of transport is left to Jäger Messtechnik GmbH. Additional costs for a special delivery method, requested by the customer, are charged to the customer. If the customer wishes to delay the delivery, liability passes to him at the moment the goods are announced to be ready for shipment.
- 2.4 Jäger Messtechnik GmbH guarantees that a transport insurance has been settled on its own expenses to insure the goods sufficiently against damages.
- 2.5 Customs duty, V.A.T. and other expenses for import into European or non-European countries are charged to the customer..
- 2.6 Jäger Messtechnik GmbH, even if it has agreed upon keeping schedules and deadlines, cannot be held liable for delays in delivery and performance due to force majeure and events which render delivery essentially more difficult or even impossible for Jäger Messtechnik GmbH—such as subsequently occurring difficulties in providing the material, breakdown in production, strike, lockout, shortage of personnel, shortage of means of transport, official regulations, etc.—even if they occur at suppliers or subcontractors of Jäger Messtechnik GmbH. This applies also to delays in delivery and performance caused by subcontractors of Jäger Messtechnik GmbH. In such cases, the customer as well as Jäger Messtechnik GmbH may cancel the contract fully or partially because of non-performance after an adequate time. In this case Jäger Messtechnik GmbH cannot assume any liability.
- 2.7 If suppliers of Jäger Messtechnik GmbH rise the prices after a contract has been concluded, Jäger Messtechnik GmbH may pass the price increase to the customers.

## 3. Software

- 3.1 The customer has a single, non-exclusive, and an individual right of use regarding the software of Jäger Messtechnik GmbH. In this regard we refer to the conditions in the license agreement for software.
- 3.2 If Jäger Messtechnik GmbH renders standard software purchased from a third party to the customer, the latter gets a non-exclusive right of use, for whose contents and performance the terms of use, agreed upon with the supplier, are substantial. These terms of use will be disclosed to the customer.

## 4. Warranty

- 4.1 Jäger Messtechnik GmbH assumes warranty for the goods delivered insofar as the goods will be upon its own discretion fully or partially upgraded or repaired, or they will be replaced free of charge.
- 4.2 If two attempts to repair or to replace the goods fail, the customer may choose between either allowance (price reduction) or conversion (rescission of the contract).
- 4.3 Costs for an investigation carried out by Jäger Messtechnik GmbH because of an unfounded complaint are charged to the customer's account.
- 4.4 Warranty for components purchased from a third party in order to carry out an order will be assumed in such manner that Jäger Messtechnik GmbH will only pass the supplier's warranty to the customer.
- 4.5 Jäger Messtechnik GmbH does not assume warranty for the suitability of the goods regarding a certain intended purpose, if the actual purpose cannot be deduced from written instructions, delivered with the goods or if the suitability for an actual purpose has not explicitly been confirmed in written form by Jäger Messtechnik GmbH. In any case the customer himself agrees to check in advance and separately the suitability of the goods for his own intended purpose.
- 4.6 After liability has been passed to the customer, no warranty is assumed for damages, resulting from faulty or negligent treatment, inappropriate changes and repair work by the customer or a third party, or resulting from chemical, electro-chemical or other electrical influences, provided that they are not caused by Jäger Messtechnik GmbH itself.
- 4.7 All warranty or guarantee claims expire 12 months after shipment.

## 5. Reservation of Title

- 5.1 All title rights for the goods delivered, are reserved for Jäger Messtechnik GmbH, until payment is fully effected and all outstanding balances and accounts payable have been settled, regardless of any legal ground.
- 5.2 The customer may sell, process, or rework the goods upon reserved title rights. But title does not pass to the customer by processing the goods, contrary to § 950 of German Civil Code (so-called "extended" reservation of title). If the goods are processed with other goods belonging to the customer or upon single reservation of title, title for the new product will entirely pass to Jäger Messtechnik GmbH.

If the goods are processed with other goods delivered upon extended reservation of title, Jäger Messtechnik GmbH will obtain the co-ownership for the new product. The invoice value (V.A.T. included) of the goods delivered will be in relation to the invoice value of the processed products (V.A.T. included) at the moment of processing. By the customer's taking charge of the goods, the title for the new products will pass to Jäger Messtechnik GmbH.

5.3 Already at that moment, all the customer's claims with their entire subordinated rights resulting from reselling the goods pass to Jäger Messtechnik GmbH – regardless of their original or reworked state. The terms explained under 4.2 apply correspondingly.

5.4 Goods delivered upon reserved title rights must not be pledged or assigned to someone as a security. The customer is not entitled to pass or to pledge his claims, resulting from reselling the goods in their originate or reworked state, to a third party.

#### **6. Limited Warranty and Claim for Damages**

6.1 The customer releases Jäger Messtechnik GmbH from all charges and claims of third parties, which have been caused by violation of copyrights, rights of use, rights of privacy or other protective rights by reworking the goods delivered of Jäger Messtechnik GmbH.

6.2 Deficiencies of the goods delivered by Jäger Messtechnik GmbH have to be announced immediately in written form, at the latest however, within seven days after the deficiencies have been brought to your notice.

6.3 Jäger Messtechnik GmbH and its employees do not assume liability – as far as permitted by applicable law - for injuries to persons, damages in property and assets, especially for indirect and consequential damage, i. e. business interruption, loss of business profits which arise for a customer. This applies to contractual as well as to non-contractual claims of the customer. Liability with regards to the product liability law remains unaffected.

6.4 In the case a customer rescinds a contract or does not keep his commitment to take over delivery, Jäger Messtechnik may claim damages because of non-performance. In addition Jäger Messtechnik GmbH may claim damages to the amount of 25 % of the entire purchase price. A proof of damages is in this case not necessary. If it is a special design made for the customer, he has to pay the entire purchase price.

#### **7. Place of Performance**

Place of performance for deliveries and payments is the commercial domicile of Jäger Messtechnik GmbH – Lorsch.

#### **8. Place of Jurisdiction**

The only place of jurisdiction for both parties is Bensheim. But Jäger Messtechnik GmbH may also institute legal proceedings at the customer's general place of jurisdiction.

#### **9. Application Law**

The relation between the contract partners is governed by the law of the Federal Republic of Germany only, to the exclusion of the UN purchase law agreement.

#### **10. Miscellaneous**

10.1 If some terms of these General Conditions will become or are completely or partially void, the remaining terms are legally binding. Jäger Messtechnik GmbH will legally replace them by an appropriate term, which corresponds most of all to the void term.

10.2 With publishing these General Conditions, all General Conditions published earlier by Jäger Messtechnik GmbH will no longer be valid.

### **Supplementary Conditions for Development Contracts**

#### **Object of the Order**

The object of the order results from the contents of the corresponding individual order.

#### **Execution of the Order**

Jäger Messtechnik GmbH warrants the accurate and appropriate execution of the order, according to the present

state of the art.

The customer will contribute to the successful execution of the order to the best of his abilities and will make available notably all necessary documents, his own knowledge, experience etc.

#### **Success of the Development**

Jäger Messtechnik GmbH does not assume liability for the success of a development, if the success has not or not completely been reached because of reasons which have not been discernible at contract conclusion.

#### **Costs of Development /Time of Development**

If Jäger Messtechnik GmbH recognizes that the order cannot be executed in the period of time agreed upon and/or at the price agreed upon, a supplementary agreement will be made by the contract partners about how the work will be continued and about the fact of paying the costs. If the contractual partners do not come to an agreement on this subject, Jäger Messtechnik GmbH may cancel the development contract and has the right to claim the charges for the development effort.

#### **Secrecy, Publication**

Jäger Messtechnik GmbH will not communicate customers' information - characterized as secret – to third parties, not even so after the development contract has been settled, as far as they are not known in public. The customer has the same obligation toward Jäger Messtechnik GmbH.

The customer may publish development results with mentioning the author and after prior agreement of Jäger Messtechnik GmbH, if there are no conflicting reasons, (e.g. endangering patent rights registration). If publishing is made for the purpose of advertizing, mentioning the author is on the request of Jäger Messtechnik GmbH not permitted.