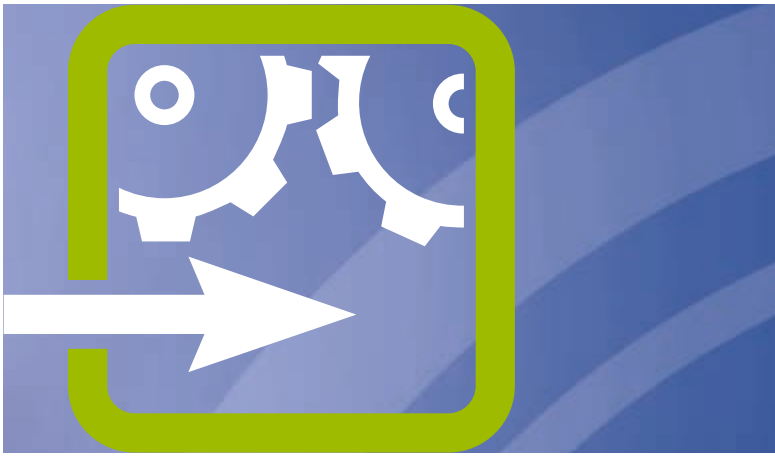
Automation

Innovative solutions for the toughest requirements



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Dear Reader,

The automation of machines and plants is the basis for planning and optimizing production processes. The aim is to lastingly increase product quality, productivity, and energy efficiency.

For decades now JUMO has been offering established solutions for a secure, reliable, and profitable plant operation and production process with its products from the field of automation.

So how do we do it? Through long-standing experience and expertise: because for more than 70 years JUMO has been one of the leading manufacturers in the field of measurement and control technology and, consequently, it is also an expert partner for automation.

We place great value on regular new developments, constant improvement of existing products, and on increasingly economic production methods because only this path allows us to achieve the highest degree of innovation for you.

This brochure provides an overview of JUMO's products and systems from the field of automation.

Further information about our products can be found at www.jumo.net using the specified product group number.

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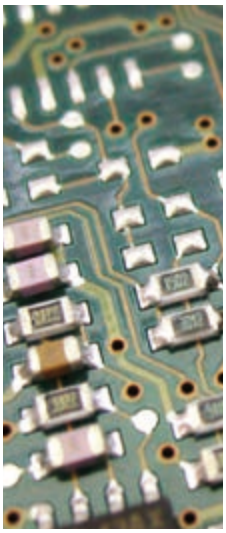


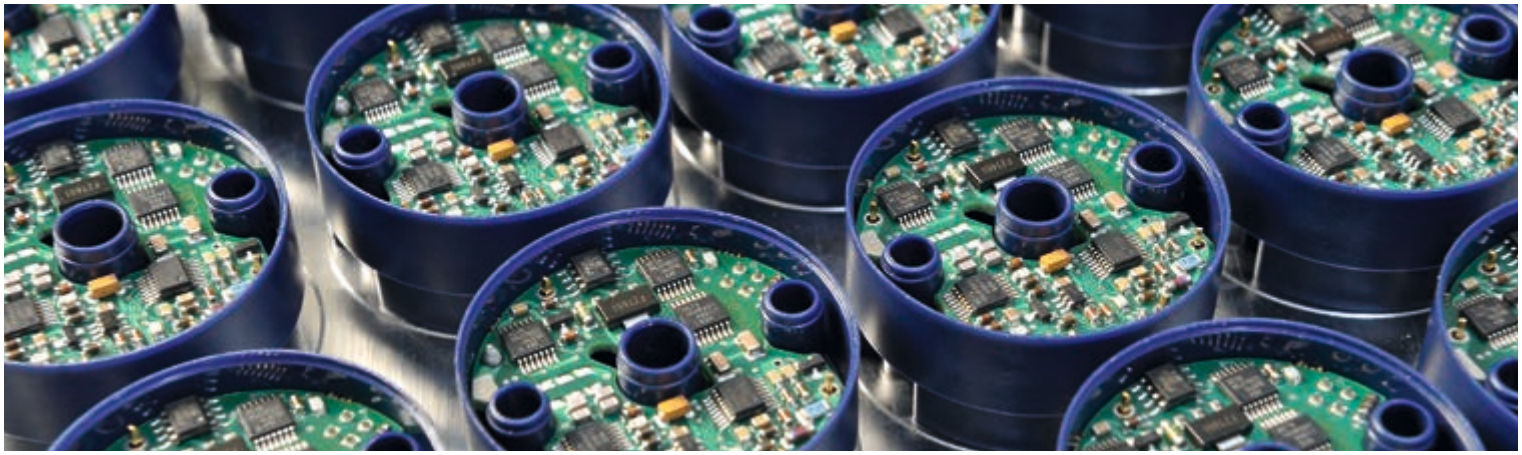
Automation

JUMO offers a well-coordinated product range for automation. It ranges from temperature transmitters, digital indicators, thyristor power controllers, solid-state relays, and automation systems to holistic cloud solutions.
Thanks to a flexible configuration by a PC setup program, the individual device functions can be rapidly and conveniently adjusted for a wide range of applications. This enables a cost-neutral configuration for many applications in the industry.

The most important industries

Our wide range of different devices offers the right solution for classic machine and plant engineering as well as for the process industry and the OEM sector.

In addition to standard devices, JUMO's product range also includes individual customer-specific versions for special applications.



Transmitters

Safe, economical, and precise signal adaptation from temperature sensors and other sensor elements to the input ranges of downstream devices is achieved by electronic transmitters of the JUMO dTRANS T series. Depending on the transmitter type these can support a wide range of sensor types through the universal measurement input. In terms of output they transmit an appropriately linearized current, voltage, or HART® signal to downstream devices for further processing.

JUMO offers a well-rounded range of transmitters that are available as head transmitters or as space-saving mounting rail transmitters. For wireless and mobile use, a head transmitter with wireless technology is available. It allows the acquisition of process values on moving or plants that are difficult to access.

Head transmitters

The head transmitters of the JUMO dTRANS series are designed for mounting in the terminal head, form B or also in the connection head, form J. The great advantage of the head installation is that it allows higher measuring accuracy due to the conversion of the sensitive sensor signal to a stable output signal (e.g. 4 to 20 mA or HART® signal) in the direct vicinity of the sensor. The fully-sealed head electronics also offers increased protection against adverse environmental conditions. Combined with such devices as the JUMO PROCESStemp RTD temperature probe for process technology, the head transmitters provide the exact measurement of your process temperature.

Product name	JUMO dTRANS T01 Ex JUMO dTRANS T01/ HART® Ex* JUMO dTRANS T01 Junior	JUMO dTRANS T03 J JUMO dTRANS T03 B JUMO dTRANS T03 BU	JUMO dTRANS T05 B	JUMO dTRANS T07 B JUMO dTRANS T07 B SIL JUMO dTRANS T07 B Ex JUMO dTRANS T07 B Ex SIL
Type	707010	707030	707050	707080
Input RTD temperature probe	Pt100, Pt500, Pt1000 (Junior only Pt100, Pt1000), two-wire/three-wire/ four-wire circuit	Pt100, two-wire or three-wire circuit	Pt100, Pt500, Pt1000, resistance transmitter, two-wire/three-wire/ four-wire circuit	Pt50, Pt100, Pt200, Pt500, Pt1000, Ni100, Ni120, Cu50, Cu100, two-wire/ three-wire/four-wire circuit
Thermocouple input	L, J, U, T, K, E, N, S, R, B, D, C (Junior only J, K, N, S, R)	–	R, S, B, J, T, E, K, N, L, U, A1, C, D, -100 to +1100 mV	A, B, C, D, E, J, K, L, N, R, S, T, U
Output	4 to 20 mA (invertible)	4 to 20 mA, 0 to 10 V	4 to 20 mA (invertible)	4 to 20 mA (invertible)
Calibration accuracy	±0.05 %	±0.2 %	±0.05 %	±0.05 %
Galvanic isolation	3.75 kV, 2 kV, 1 kV	–	3.75 kV	2 kV
Special features	Customer-specific linearization	Analog signal path, can be digitally adjusted/configured	USB interface, customer-specific linearization, control LED (red/green), storing min./max., sensor temperature via drag indicator function	2 universal measurement inputs (RTD, TC, Ω, or mV), high degree of accuracy (0.1 K with Pt100 sensor), output 4 to 20 mA (1-channel loop powered), HART® 7 protocol, SIL 2/SIL 3 hardware/ software according to IEC 61508, reliable measuring mode due to sensor monitoring and device hardware error detection, optional plug-in display BD7 for B-head device version
NAMUR compliant	NE 21			NE 43 and NE 89
Approval	ATEX, IECEx	–	–	ATEX, IECEx, SIL, cULus
Configuration	Via PC interface, HART® version via HART® modem	Via PC interface	Via standard USB cable without auxiliary voltage	Via HART® modem with JUMO DTM or HART® communicator with JUMO DD
Voltage supply	DC 11.5 to 30 V	DC 7.5 to 30 V, DC 15 to 30 V (BU)	DC to 35 V	DC 11 to 42 V (without SIL and Ex approval)
Ambient temperature	-40 to +85 °C			-40 to +85 °C (without SIL and Ex approval)
Installation	In terminal head, form B	In terminal head, form B or form J	In terminal head, form B	In terminal head, form B

* No IECEx.

Mounting rail transmitters

Product name	JUMO dTRANS T01 HART® T	JUMO dTRANS T03 T JUMO dTRANS T03 TU	JUMO dTRANS T05 T
Type	707010	707030	707050
Input RTD temperature probe	Pt100, Pt500, Pt1000, two-wire/three-wire/four-wire circuit	Pt100, two-wire or three-wire circuit	Pt100, Pt500, Pt1000, two-wire/three-wire/four-wire circuit
Thermocouple input	J, K (more upon request)	–	R, S, B, J, T, E, K, N, L, U, A1, C, D, -100 to +1100 mV
Output	4 to 20 mA	4 to 20 mA, 0 to 10 V	4 to 20 mA, 0 to 10 V
Calibration accuracy	±0.05 %	±0.2 %	±0.05 %
Galvanic isolation	2 kV	–	1.875 kV
Special features	Customer-specific linearization	Analog signal path, can be digitally adjusted	USB interface, customer-specific linearization, control LED (red/green), storing min/max sensor temperature via drag indicator function
NAMUR compliant	NE 21		NE 43
Approval	–	–	–
Configuration	Via HART® modem	Via PC interface	Via standard USB cable without auxiliary voltage
Voltage supply	DC 11.5 to 30 V (two-wire transmitter)	DC 15 to 35 V (two-wire/three-wire transmitter)	DC 1 to 35 V (two-wire/three-wire transmitter)
Ambient temperature	-25 to +70 °C	-25 to +70 °C	-10 to +70 °C
Installation	On mounting rail 35 × 7.5 mm		On mounting rail/DIN rail 35 × 7.5 mm

Product name	JUMO dTRANS T06 Junior	JUMO dTRANS T06 JUMO dTRANS T06 Ex	JUMO dTRANS T07 T JUMO dTRANS T07 T SIL JUMO dTRANS T07 T Ex JUMO dTRANS T07 T Ex SIL
Type	707070	707071, 707075	707080
Input RTD temperature probe	Two-wire, three-wire, or four-wire circuit, resistance transmitter in three-wire circuit	Pt50, Pt100, Pt500, Pt1000, Ni100, Ni500, Ni1000, Cu50, Cu100, two-wire, three-wire, or four-wire circuit	Pt50, Pt100, Pt200, Pt500, Pt1000, Ni100, Ni120, Cu50, Cu100, two-wire/ three-wire/four-wire circuit
Thermocouple input	L, J, U, T, K, E, N, S, R, B, C, A1, D, L, Chromel®-Alumel®, Platinel II	L, J, U, T, K, E, N, S, R, B, C, A1, D, L, Chromel®-Alumel®, PLII, 0 to 1 V	A, B, C, D, E, J, K, L, N, R, S, T, U
Output	(0)4 to 20 mA, 0(2) to 10 V	0(4) to 20 mA or 0(2) to 10 V (invertible)	4 to 20 mA, 20 to 4 mA (invertible)
Galvanic isolation	1.0 kV	1.8 kV	2 kV
Special features	High degree of galvanic signal isolation, customer-specific linearization, output simulation, min./max. drag indicator function, operating hours counter, easy-to-use setup configuration (USB powered)	Universal input for a large number of sensors and standard signals, intuitive operation and configuration on the device or via USB interface with setup program, RS485 interface Modbus RTU and relay output limit value (option), intelligent additional functions such as min/max drag indicator, operating hours counter and output simulation, SIL 2/SIL 3 according to DIN EN 61508 and PL c/d according to ISO 13849 (option), sensor matching for RTD temperature probe, customer-specific linearization, high degree of galvanic signal separation, connection diagram available in the display	2 universal measurement inputs (RTD, TC, Ω, or mV), high degree of accuracy (0.1 K with Pt100 sensor), output 4 to 20 mA (1-channel loop powered), HART® 7 protocol, HART® communication sockets on the front, SIL 2/SIL 3 hardware/software according to IEC 61508, reliable measuring mode due to sensor monitoring and device hardware error detection
NAMUR compliant	NE 43		NE 43 and NE 89
Approval	UL approval, cULus	SIL and PL, cUL, DNV GL	ATEX, IECEx, SIL, cULus
Configuration	USB interface with PC setup program	On the device via USB interface with PC setup program	Via HART® modem with JUMO DTM or HART® communicator with JUMO DD
Voltage supply	DC 24 V, +10/-15 %	AC 110 to 240 V, DC 24 V (four-wire transmitter)	DC 12 to 42 V (without SIL and Ex approval; two-wire transmitter)
Ambient temperature	-10 to +70 °C		-40 to +85 °C (without SIL and Ex approval)
Installation	Mounting rail 35 mm × 7.5 mm according to DIN IEC 60715		

Head transmitters with wireless capability or cable

Product name	JUMO dTRANS T09 Cable transmitter for temperature	Wtrans B Head transmitter with wireless data transmission	JUMO Wtrans receiver
Type	707090	707060	902931
Input	RTD temperature probe with Pt100 or Pt1000, 4-wire connection	Pt100, Pt500, Pt1000, resistance transmitter, resistance/ potentiometer (two-wire, three-wire, four-wire circuit), R, S, B, J, T, E, K, N, L, U, A1, C, D, 0 to 50 mV, 0(4) to 20 mA (via external shunt)	16 receiving channels (receiving frequency 868.4 MHz)
Output	Current DC 4 to 20 mA or IO-Link interface	Wireless-based with open air range of up to 300 m (transmission frequency 868.4 MHz)	2 × 4 to 20 mA, 0 to 10 V, 2 × relay or 4 × 4 to 20 mA, 0 to 10 V
Calibration accuracy	≤ ±0.1 %	±0.1 %	
Galvanic isolation	No galvanic isolation between sensor and output	> 10 kV	50 V
Special features	Customer-specific configuration possible	Transmission interval of 1 to 3600 s, customer-specific linearization	LCD display, RS485 interface (Modbus)
NAMUR compliant	–	NE 21	
Approval	–		
Configuration	Via PC interface using setup program or IO-Link master with IODD configuration tool	Via PC interface	Via PC interface or keys on the front
Voltage supply	DC 8 to 35 V; IO-Link operation DC 18 to 32 V	3.6 V Li battery (battery size AA)	AC 110 to 240 V, AC/DC 20 to 30 V
Ambient temperature	-40 to +85 °C	-30 to +85 °C	-20 to +50 °C
Installation	Mounting in the cable line	In terminal head, form B	On mounting rail 35 × 7.5 mm

Isolation amplifiers

Product name	JUMO Ex-i repeater power supply and input isolating amplifier	JUMO Ex-i isolating switch amplifier
Type	707530	707540
Input	0(4) to 20 mA, supply isolation amplifier operation or input isolating amplifier operation	2 duct version, intrinsically safe, designed for ignition protection type Ex i [Ex ia]; NAMUR proximity sensors according to EN 60947-5-6; unconnected switching contacts (not for safety-related applications, SIL 2); switching contacts wired for resistance
Output	0(4) to 20 mA, 0(1) to 5 V	2 relay outputs, 1 changeover contact per channel
Calibration accuracy	±0.05 % (typical)	–
Galvanic isolation	375 V_{peak}	375 V
Special features	HART® compatible, active/passive current output, LED for power status, wide-range power supply	Use of the sensor up to Ex zone 0, galvanic 3-way isolation, 2 channels, wide range power supply, line fault detection (line break, short circuit), phase reversal option (switching output)
Approval	ATEX [Ex ia], SIL 2, UL	DNV GL, ATEX, IECEx, UL
Configuration	Via DIP switch on the device	
Voltage supply	AC/DC 24 to 230 V	AC/DC 24 to 230 V
Ambient temperature	-20 to +60 °C	-40 to +60 °C
Installation	On mounting rail 35 × 7.5 mm	

Temperature transmitters




Product name			JUMO dTRANS T08 01 Eco thermocouple transmitter (J, K)	JUMO dTRANS T08 02 Eco transmitter (Pt100)	JUMO dTRANS T08 11 Thermocouple transmitter (J, K)	JUMO dTRANS T Transmitter (Pt1
Type			707101	707102	707111	707112
Input	Thermo-couple	J and K	●		●	
		Int. CJC	●		●	
		Ext. CJC			●	
	Pt100	Two/three/ four wire		●		●
Output (current or voltage)	Current	Active	0(4) to 20 mA	0(4) to 20 mA	0(4) to 20 mA	0(4) to 20 mA
		Passive				
	Voltage		0(1) to 5 V; 0(2) to 10 V	0(1) to 5 V; 0(2) to 10 V	0(1) to 5 V; 0(2) to 10 V	0(1) to 5 V; 0(2) to 10 V
Front LED			●	●	●	●
Power supply			24 V DC, ±30 %	24 V DC, ±30 %	24 V DC, ±30 %; also through busbar	24 V DC, ±30 %; also through bus
Isolation					2500 V	2500 V
Accuracy			< 0.1 % in all available areas or < 1 °C	< 0.1 % in all available areas or < 0.2 °C	< 0.05 % in all available areas or < 0.5 °C	< 0.05 % in all av areas or < 0.1 °C

Only configurable with control panel BD 08 14 and docking station DS 08 14; input also configurable for 0 to 10 V, 0 to 20 mA, potentiometer 10 Ω to 100 kΩ.





T08 12 00)	JUMO dTRANS T08 13 HART® transmitter (Pt100, J, K)	JUMO dTRANS T08 14* Universal transmitter	JUMO dTRANS T08 31 Two-wire transmitter (Pt100, J, K)	JUMO dTRANS T08 33 Two-wire transmitter (Pt100)	JUMO dTRANS T08 37 Two-wire HART® transmitter (Pt100, J, K)
	707113	**707114**	**707131**	**707133**	**707137**
	●	J and K; additionally B, E, J, K, L, N, R, S, T, U, W3, W5, LR	●		●
	●	●	●		●
	●	●	●		●
	●	Such as Pt100, Pt500, Pt1000	●	●	●
	4 to 20 mA; 20 to 4 mA (HART® 7)	0 to 20 mA; 4 to 20 mA; 20 to 0 mA; 20 to 4 mA			
			4 to 20 mA; 20 to 4 mA	4 to 20 mA; 20 to 4 mA	4 to 20 mA; 20 to 4 mA (HART® 7)
		0(0.2) to 1 V; 0(1) to 5 V; 0(2) to 10 V; 1 to (0.2)0 V; 5 to (1)0 V; 10 to (2)0 V			
	●	●			
sbar	24 V DC, ±30 %; also through busbar	24 V DC, ±30 %; also through busbar	Loop power supply (5.5 to 35 V DC)	Loop power supply (3.3 to 35 V DC)	Loop power supply (6.2 to 35 V DC)
	2500 V	2500 V	2500 V		2500 V
ailable	< 0.05 % in all available areas or < 0.1 °C	< 0.1 % in all available areas	< 0.05 % in all available areas or < 0.1 °C	< 0.1 % in all available areas or < 0.2 °C	< 0.05 % in all available areas or < 0.1 °C

Signal and isolating converters




Product name			JUMO dTRANS S08 03 Signal isolator (mA)	JUMO dTRANS S08 04 Signal converter (V, mA)/supply isolator	JUMO dTRANS S08 05 Eco signal converter (V, mA)	JUMO dTRANS Signal isolator/ (mA)
Type			707203	707204	707205	707208
Input	Current	Active	0 to 23 mA	0 to 20 mA; 4 to 20 mA	0 to 20 mA; 4 to 20 mA	0 to 23 mA
		Passive		4 to 20 mA (supply isolator)		
	Voltage			0(1) to 5 V; 0(2) to 10 V	0(1) to 5 V; 0(2) to 10 V	
	Bipolar					
Output	Current	Active	0 to 23 mA	0(4) to 20 mA	0(4) to 20 mA	0 to 23 mA
		Passive				
	Voltage			0(1) to 5 V; 0(2) to 10 V	0(1) to 5 V; 0(2) to 10 V	
	Splitter 1 input – 2 outputs					●
Front LED			●	●	●	●
Power supply			24 V DC, ±30 %; also through busbar	24 V DC, ±30 %; also through busbar	24 V DC, ±30 %; also through busbar	24 V DC, ±30 %; also through bu
Isolation			2500 V	2500 V	2500 V	2500 V

* Also available in two-channel version (S08 85A2).

** Also available in two-channel version (S08 86A2 and S08 86B2).





S08 08 splitter	JUMO dTRANS S08 09 Signal converter (V, mA)/ supply isolator/splitter	JUMO dTRANS S08 17 Bipolar signal converter/isolator	JUMO dTRANS S08 18 Bipolar signal converter/splitter	JUMO dTRANS S08 85 Loop powered signal isolator	JUMO dTRANS S08 86 Two-wire transmitter signal amplifier or isolation amplifier
	707209	**707217**	**707218**	**707285 ***	**707286 ****
	0 to 20 mA; 4 to 20 mA	±10 mA; ±20 mA	±10 mA; ±20 mA	0 to 23 mA	3.5 to 23 mA (type S08 86B1 and S08 86B2)
	4 to 20 mA (supply isolator)				3.5 to 23 mA (type S08 86A1 and S08 86A2)
	0(1) to 5 V; 0(2) to 10 V	±5 V ±10 V	±5 V ±10 V		
		●	●		
	0(4) to 20 mA	0(4) to 20 mA	0(4) to 20 mA; bipolar wiring: ±10 mA, ±20 mA	0 to 23 mA	
					3.5 to 23 mA
	0(1) to 5 V; 0(2) to 10 V	0(1) to 5 V; 0(2) to 10 V	0(1) to 5 V; 0(2) to 10 V		
	●		●		
	●	●	●		
sbar	24 V DC, ±30 %; also through busbar	24 V DC, ±30 %; also through busbar	24 V DC, ±30 %; also through busbar	Loop-powered input	Loop-powered output (6.0 to 35 V DC)
	2500 V	2500 V	2500 V	2500 V	2500 V

Digital indicators

Digital indicators enable precise on-site display of process values and ensure that the values that are important for a smooth production process are available "at a glance". Limit value monitoring functions ensure an automatic monitoring of important process variables.
JUMO offers a complete indicator range from the one-channel compact format to the two-channel version with text display and running text.

Digital indicators

Product name	JUMO diraVIEW 132 JUMO diraVIEW 116	JUMO diraVIEW 108, vertical/horizontal JUMO diraVIEW104
Type	701510	
Display	18-segment LCD display, display elements for switch position of the outputs and timer, pixel matrix LCD display (only type diraVIEW 108 and diraVIEW 104)	
Input	1 user configurable analog input for RTD temperature probes, thermocouples, current 0(4) to 20 mA, voltage 0(2) to 10 V, resistance transmitters, or resistance/potentiometers	
Output	701510: 1 relay 3 A/230 V AC (NO contact), 1 logic output 0/14 V (alternative to digital input 1) 701511: 2 relays 3 A/230 V AC (NO contact), 1 logic output 0/14 V (alternative to digital input 1), optional: analog output, relay	2 relays 3 A/230 V AC (NO contact), 1 logic output 0/14 V (alternative to digital input 1), optional: analog output, relay, PhotoMOS® relay
Calibration accuracy	0.1 %; 0.25 %	
Galvanic isolation	3000 V (measurement input for supply)	
Special features	Math and logic functions, ST code programming, min/max value memory and display, hold function, service and operating hours counter, tare function for weighing applications	
Configuration	On the device via USB interface with PC setup program	
Approval	cULus	
Protection type	IP65	
Voltage supply	AC/DC 20 to 30 V, AC 110 to 240 V	
Ambient temperature	-10 to +55 °C	
Connections	Spring-cage terminals, PUSH IN terminal technology	
Alarms	4 × limit value monitoring function	
Digital inputs	2 digital inputs for potential-free contacts (digital input 1 alternative to logic output)	
Interfaces	Setup interface (USB powered), RS485 interface (optional)	

Digital indicators

Product name	JUMO di eco	JUMO di 308
Type	701540	701550
Display	3-digit segment display (red, digit height 13 mm)	5-digit LCD display (2 lines, digit height 18/7 mm), text display as running text with color change
Input	Pt100/Pt1000/KTY2X-6, thermocouples J, L, K, 0(4) to 20 mA, 0 to 10 V	Up to 2 channels with multifunction input: RTD temperature probe, thermocouple, standard signal, 0 to 20 mA, 0 to 10 V
Output	Relay (10 A)	2 relays (can be expanded by optional boards)
Calibration accuracy	0.1 %; 0.4 %	0.1 %; 0.25 %
Galvanic isolation	None	500 V (measurement input for supply)
Special features	Switch-on delay and alarm suppression configurable, sensor-related hardware version	Can be optionally expanded with analog output, RS485, PROFIBUS, math, up to 4 limit values
Configuration	Via PC interface or keys on the front	Via PC interface or keys on the front
Approval	cULus	cULus
Protection type	IP65 (front side), IP20 (rear side)	IP65 (front side), IP20 (rear side)
Voltage supply	DC 24 V, AC 110 V/230 V	AC/DC 20 to 30 V, AC 110 to 240 V
Ambient temperature	0 to 55 °C	0 to 55 °C
Installation	In the panel cut-out 76 × 36 mm	In the panel cut-out 96 × 48 mm

Handheld thermometer

Product name	JUMO TDA-300 and JUMO TDA-3000
Type	702540
Display	LCD display with date and time
Sensor input	Pt100, thermocouple K, J
Calibration accuracy	0.1 %
Special features	Data logger, 99 to 9999 measured values, TDA-3000 with USB interface for reading, min/max value recording
Approval	–
Configuration	Menu navigation with keys
Protection type	IP67 (JUMO TDA-300), IP54 (JUMO TDA-3000)
Voltage supply	1.5 V alkaline battery (size AA)
Ambient temperature	-20 to +50 °C

Application

Zone monitoring in climatic chambers

The challenge

When storing medicines or other sensitive goods in climatic chambers, a consistent climate is important at all times for such purposes as to maintain the quality of the active ingredient. These chambers can consist of 2 or more zones. The values temperature and humidity are decisive when storing medications. Firstly, the 2 measured values have to be controlled and, secondly, they should be made available for tracking purposes within the documentation. Here it is important that the average value of the 2 parameters is available as an analog signal (4 to 20 mA).

The solution

The JUMO di 308 indicating device easily meets all the requirements that the customer placed upon the above named application. The 2 analog inputs, 2 relay outputs, 1 analog output, and the math function allow the device to acquire, control, and document the temperature as well as humidity. The limit value setting sets off an alarm as soon as the temperature and humidity value of the set actual value is exceeded or is not reached. The 2 analog inputs monitor each other via the preset limit values. The documentation of the values is performed by the math function which develops the average value of the 2 inputs and then makes it available via the analog output.

The implementation with the JUMO di 308 indicating device allows the application to be put into operation without additional programming effort. The user, therefore, has access to simple operation without comprehensive technical understanding.

Solid state relays and thyristor power controllers

Wherever electrical energy is converted to heat and/or used for industrial heat generation, thyristor power controllers are used. A close cooperation with the user is very important to develop practice-oriented products (which have proven themselves on the market) for this area.
JUMO offers you products that enable energy-efficient, sustainable, and cost-oriented production.

Solid state relays





Product name	❶ JUMO TYA 432-45/25, 230 ❷ JUMO TYA 432-45/50, 600	❸ JUMO TYA 432-100/25, 230 ❹ JUMO TYA 432-100/50, 600	JUMO TYA 432-100/40, 600	JUMO TYA 432-100/60, 600	JUMO TYA 432-100/3, 20, 600
Type	709010	709020			
Load type	1-phase				3-phase
Dimensions	45 × 58.2 × 29 mm	17.8 × 110 × 98.5 mm	35.6 × 110 × 140.5 mm	70 × 110 × 140.5 mm	54 × 110 × 102.5 mm
Load voltage	❶ 24 to 265 V AC ❷ 42 to 660 V AC	❸ 24 to 240 V ❹ 42 to 600 V	42 to 660 V AC		
Load current (max.)	❶ 25 A_{eff} ❷ 50 A_{eff}	25 A_{eff} (at 40 °C)	40 A_{eff} (at 40 °C)	60 A_{eff} (at 40 °C)	20 A_{eff} (at 40 °C)
Load current (min.)	❶ 150 mA AC ❷ 250 mA AC	250 mA AC	400 mA AC		250 mA AC
Control voltage	❶ 3 to 32 V DC ❷ 4 to 32 V DC	❸ 3 to 32 V DC ❹ 4 to 32 V DC	4 to 32 V DC		5 to 32 V DC
Peak reverse voltage	❶ ≥ 650 Vp ❷ ≥ 1400 Vp	❸ ≥ 800 Vp ❹ ≥ 1200 Vp	1600 Vp		1200 Vp
Operating mode	Zero voltage retentive				
Isolation	Between the control and power section through optocouplers; insulation voltage 4 kV				
Ambient temperature	-20 to +70 °C	-40 to +80 °C			
Electrical connection	Screw terminals				
Protection type	IP20				
Weight	60 g	260 g	515 g	972 g	850 g
Approvals	cULus; CSA				
Special features	Overvoltage protection by integrated varistor; LED display for control input				

Thyristor power controllers



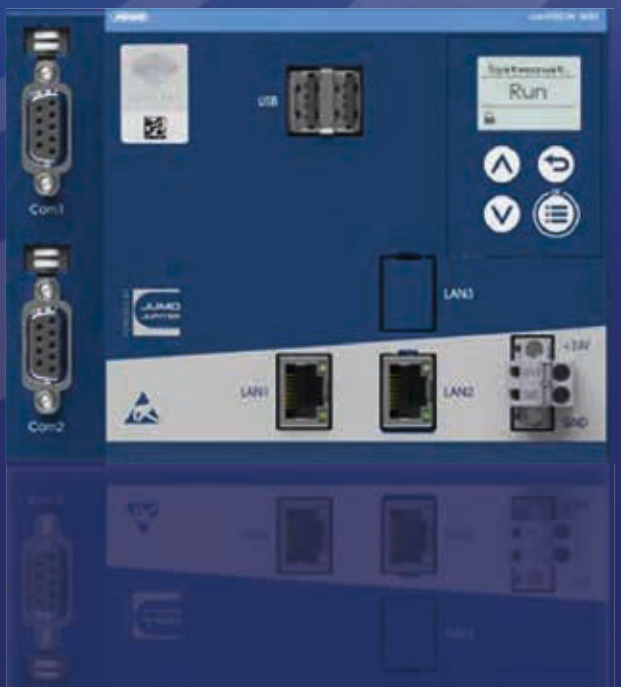

Product name	JUMO TYA 201 Single-phase thyristor power controller	JUMO TYA 202 Three-phase thyristor power controller in economy circuit	JUMO TYA 203 Three-phase thyristor power controller	JUMO TYA S201 Single-phase thyristor power controller
Type	709061	709062	709063	709065
Load currents	20, 32, 50, 100, 150, 200, 250 A			
Load voltage	24, 42, 115, 230, 400, 460, 500 V			230 V, 400 V, 460 V, and 500 V
Control voltage	Control voltage = load voltage			
Configuration	Setup program (USB powered); plain text display on the device			
Operating modes	Phase-angle control, burst-firing operation, half-wave control, SSR logical operation, fast logical operation, alpha start, soft start	Burst-firing operation, SSR logical operation, fast logical operation, alpha start, soft start	Phase-angle control, burst-firing operation, half-wave control, SSR logical operation, fast logical operation, alpha start, soft start	Burst-firing operation
Load types	Resistive load, resistive inductive load, cold/warm ratio 1:16, transformer load, infrared radiator (short, medium, long-wave)	Resistive load, resistive inductive load, transformer load, infrared radiator (short, medium, long-wave)	Resistive load, resistive inductive load, cold/warm ratio 1:16, transformer load, infrared radiator (short, medium, long-wave), carbon radiator	Resistive load, resistive inductive load, cold/warm ratio 1:16, transformer load, infrared radiator (short, medium, long-wave)
Approval	cULus			UL 508
System interfaces	Modbus, PROFIBUS DP, system bus JUMO mTRON T, EtherCAT, PROFINET			PROFINET interface (option)
Ambient temperature	-20 to +70 °C			
Subordinate control loop	U, U^2 control (standard); I, I^2, P control (optional)			
Special features	Current limiting	Economy circuit	Current limiting	Current limiting
	Mains load optimization, dual energy management, "Teach-In" function (partial load failure detection), "r-control" (resistance limitation), intelligent diagnosis system, integrated semiconductor fuse, device configuration without auxiliary voltage, vibrant display, "True RMS" (Root Mean Square)			

Product name	JUMO TYA S202 Three-phase thyristor power controller in economy circuit
Type	709066
Load currents	20, 32, 50, 100, 150, 200, 250 A
Load voltage	400 V, 460 V, and 500 V
Control voltage	Control voltage = load voltage
Configuration	Setup program (USB powered); plain text display on the device
Operating modes	Burst-firing operation
Load types	Resistive load, resistive inductive load, transformer load, infrared radiator (short, medium, long-wave)
Approval	UL 508
System interfaces	PROFINET interface (option)
Ambient temperature	-20 to +70 °C
Subordinate control loop	U, U^2 control (standard); I, I^2, P control (optional)
Special features	Economy circuit
	Mains load optimization, dual energy management, "Teach-In" function (partial load failure detection), "r-control" (resistance limitation), intelligent diagnosis system, integrated semiconductor fuse, device configuration without auxiliary voltage, vibrant display, "True RMS" (Root Mean Square)

Product name	JUMO IPC 300 Electronic transformer
Type	709051
Power	Up to 40 kW
Operating mode	Amplitude control
Dimensions	348.6 × 300 × 217 mm or 403.5 × 300 × 257.5 mm
Subordinate control loop	Select between U^2, I^2, and P
Analog output	0(4) to 20 mA; 0(2) to 10 V or 0(1) to 5 V
Display	LCD with plain text display
Operation	Keypad on the device
Configuration	Setup program with transfer of parameters via USB interface without voltage supply (USB powered); configuration via fieldbus possible
Protective functions	Short-circuit control during activation procedure, r-control, integrated semiconductor fuses for protection against ground fault
Interface	PROFINET
Special features	Gentle mains operation with high-powered resistive loads (flicker); minimal harmonics in the plant's network; compensation of the aging process for SiC heating rods with an indication when the voltage reserve is no longer sufficient for compensation; control regardless of the heating elements' resistance characteristic; protection of molybdenum disilicide heating elements against overheating in the upper temperature range

JUMO variTRON automation system

JUMO variTRON is based on the JUMO JUPITER platform. This platform approach brings numerous advantages when developing products. It is already the standard approach in many industries today. During the development of the JUMO JUPITER platform, great emphasis was placed on the scalability of the hardware and software. The result is a modular, flexible, and above all sustainable hardware platform that is combined with a modern software architecture.

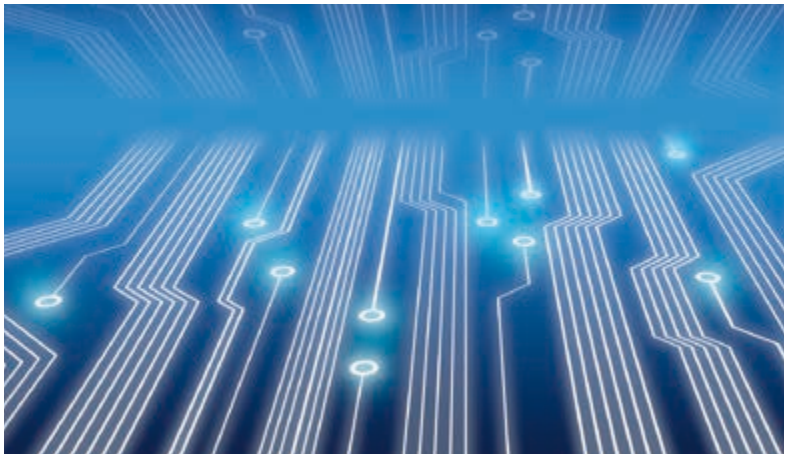


JUMO mTRON T central processing unit

The advantages at a glance

- PLC according to IEC 61131-3 (CODESYS V3.5)
- Applications with the programming environment Node-RED
- Support of numerous fieldbus systems such as Modbus RTU/TCP, PROFINET, and EtherCAT
- Modern communication protocols such as OPC UA and MQTT
- Connection of modern web panels in different formats for visualization and operation
- Individual customer solutions due to highly flexible device and functional concept (functionally as well as Look and Feel)
- Easy integration of new software functions via CODESYS PLC
- High speed performance
- Flexible operating philosophy
- Integration of customer-specific parameters through CPV editor
- Easy adaptation of hardware inputs and outputs
- Customer-specific operation and visualization of several operator stations via CODESYS Remote TargetVisu and CODESYS WebVisu
- Integrated JUMO Web Cockpit
- Precise measured value acquisition via modules with high-quality, configurable analog inputs (universal)
- Reliable control technology via modules with independent PID controllers including autotuning function

Product name	JUMO variTRON 300 Compact automation system	JUMO variTRON 500 Highly scalable and high-performing automation system
Type	705003	705002
CPU	1 × 800 MHz	4 × 800 MHz
Serial interface	1 × RS485 Modbus RTU	2 × RS232/RS485 Modbus RTU (optional)
USB host	1	2
Ethernet interface	2	1 (1 more as an optional extra)



Processes you can touch

Clear visualizations and simple operation with touchscreens

Visualization with CODESYS WebVisu

- Enables visualization in the web browser
- Based on HTML5 and supported by almost all browsers
- Can be used on computers, tablets, and smartphones, but also on web panels (panel with web browser)

Visualization with CODESYS Remote TargetVisu

- Enables visualization on externally connected panels (without web browser)
- Runs in a separate file and not in a web browser
- Can be used on all compatible panels

JUMO web panels can be used with CODESYS WebVisu or Remote TargetVisu!

Product name	Web panels
Type	705070
Display	TFT color screen with capacitive touch or resistive touch technology, which can be operated with gloves in some cases
Screen resolution	480 × 272 to 1920 × 1080
Screen size (diagonal)	4.3 to 21.5 inches
Visualization	CODESYS WebVisu or CODESYS Remote TargetVisu
Interfaces	USB and Ethernet (how many depends on version)
Protection type	IP53 to IP69 (front)
Special features	Special versions for the food industry with protection type IP69 (front side), Smart series for installation in critical areas (accessories required)
Voltage supply	DC 24 V; PoE with JSmart series
Approvals	UL, DNV GL (depending on version)

Application

Well monitoring with JUMO variTRON: From the sensor to the JUMO Cloud

Mineral water is drawn from water wells. Similarly, breweries also draw their water from deep wells that must be monitored. Results are documented and reports are regularly sent to the respective authorities. Most operators run several water wells, which are usually far away from each other, so that personnel requirements are very high. The inline acquisition of the measured values from the individual water wells via JUMO variTRON 500, along with their depiction in the JUMO Cloud, present a solution that significantly reduces the workload and can also be automated if required.

Monitoring

The temperature, water well level, conductance, pH value, and flow must be monitored. Among other reasons, the purpose here is to ensure that no groundwater enters into the water well. However, groundwater extraction, which must also be reported, is subject to its own strict specifications. Groundwater rights along with water well subsidence play a significant role here.

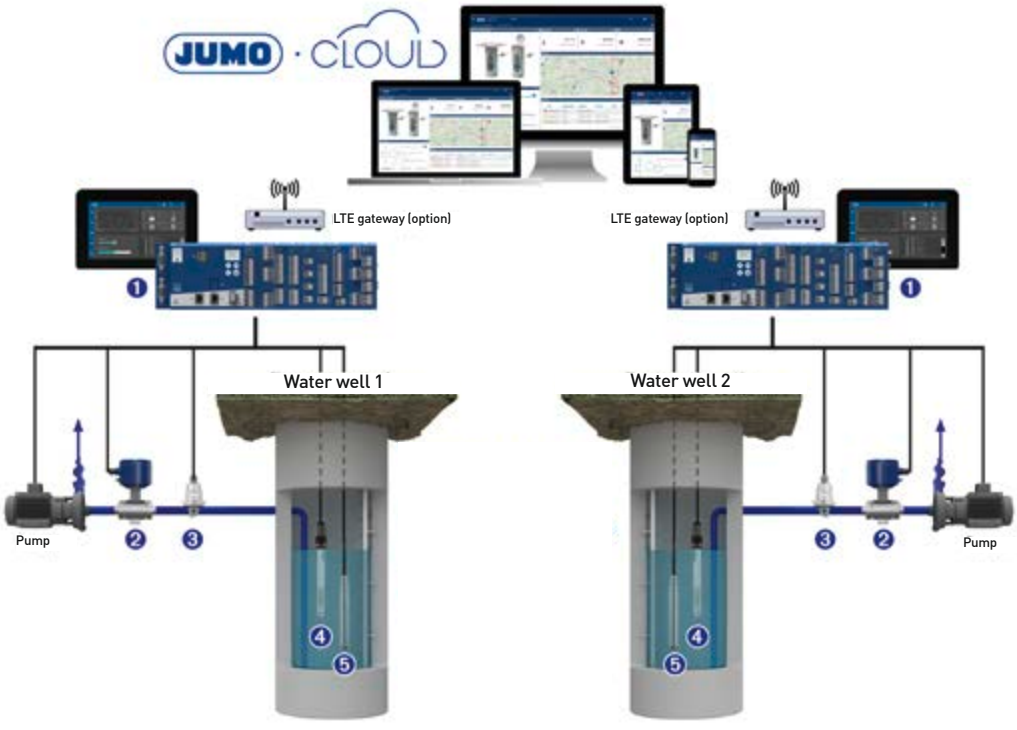
Extendable by additional measurands

The respective measuring devices can be connected to the JUMO variTRON 500 automation system. All determined values are shown on the on-site touch display.

The outputs can be used, for example, to switch off pumps when water levels fall below a certain point. Furthermore, the system acts as a gateway to the JUMO Cloud with a secure MQTTS connection.

All measurement data comes together in the JUMO Cloud. This way, all water wells and values can be visualized and evaluated via individual dashboards. Report creation is also very easy.

If values are exceeded or fall short, alarms can be predefined and then sent by email, text message, or other chosen option.



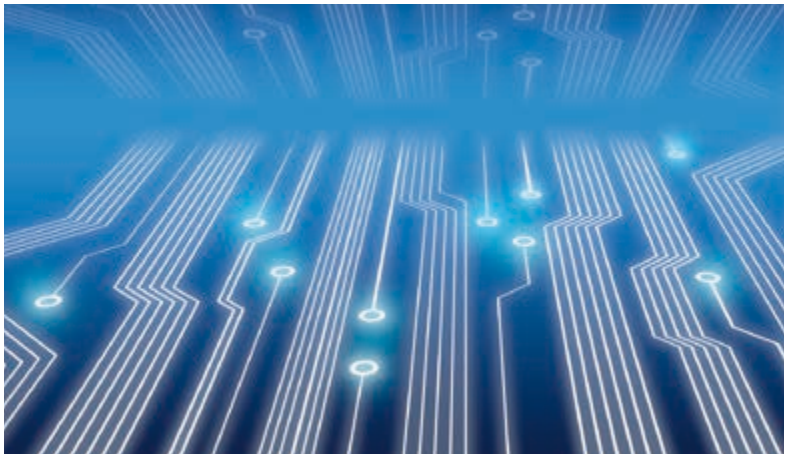
❶ **JUMO variTRON 500**
Automation system with modules and panel

❷ **JUMO flowTRANS MAG H10**
Water extraction

❸ **JUMO digiLine Ci HT10**
Conductance and temperature

❹ **JUMO tecLine pH**
pH value

❺ **JUMO MAERA S28**
Monitoring the water well level

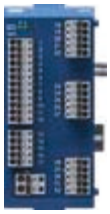


JUMO variTRON module

Wide range of possibilities

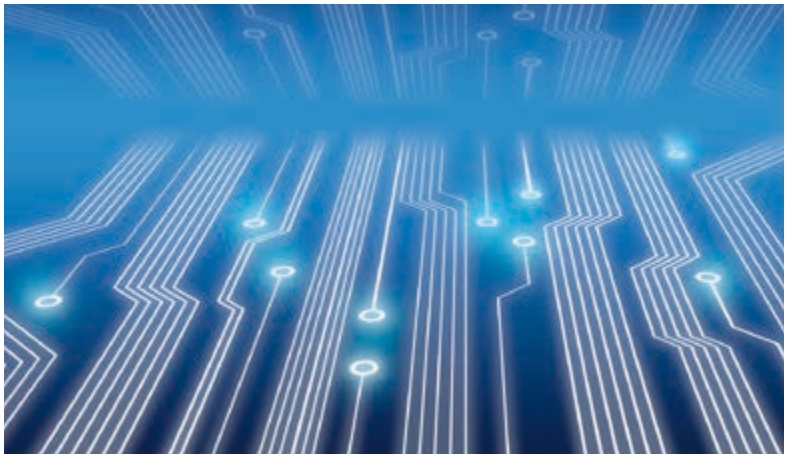
Relay and controller modules as well as various analog and digital input and output modules are available as module variants. These include: the analog input module with universal inputs for thermocouples, RTD temperature probes, and voltage or current standard signals. As a result the same hardware can be used to precisely acquire and digitize a highly diverse range of process variables. JUMO variTRON enables simultaneous operation of a large number of control loops and therefore masters even demanding processes without any problems. The control loops operate completely independently without requiring resources from the central processing unit. Through expansion slots the inputs and outputs of each controller module can be individually expanded and adapted. In addition, thyristor power controllers can be connected to the central processing unit via EtherCAT or PROFINET. JUMO digiLine sensors for liquid analysis can be connected directly.

Product name	Multichannel controller module	Relay module 4-channel	Analog input module 4-channel	Analog input module 8-channel
Type	705010	705015	705020	705021
Features	- Up to 4 independently configurable PID control loops with a fast cycle time and proven control algorithms - Independent operation - Math and logic functions - Counting input up to 10 kHz	- 4 relay outputs that are controlled via the system bus by digital signals - Each changeover contact (230 V/3 A) - Switching statuses are displayed with LEDs	- 4 high-quality, user configurable analog inputs for RTD temperature probes, resistance transmitters, thermocouples, current 0(4) to 20 mA, voltage 0(2) to 10 V - All inputs are galvanically isolated from each other - Customer-specific linearization possible - Limit value monitoring function - Additional digital input	- 8 high-quality analog inputs for RTD temperature probes Pt100, Pt500, Pt1000 in 2-wire circuit - Limit value monitoring function - Additional digital input



Product name	Analog output module	Digital input and output module 12-channel	Digital input and output module 32-channel
Type	705025	705030	705031
Features	- 4 user configurable analog outputs 0(4) to 20 mA or 0(2) to 10 V - Adjustable output behavior in case a malfunction occurs	- 12 digital inputs or outputs - Each channel can be configured as an input DC 0/24 V or output DC 24 V - Capacity per output: 500 mA - Switching statuses are displayed with LEDs	- 32 channels with 17 fixed digital outputs - 3 expansion slots for 5 digital inputs or outputs each - Capacity per output: 500 mA - Switching statuses are displayed with LEDs

Product name	Router module 2-port	Router module 3-port	Router module 1-port
Type	705041	705042	705043
Features	- System bus expansion via 2 RJ45 sockets (1 Bus In, 1 Bus Out) - Enables distribution of modules over several DIN rails or control cabinets	- System bus expansion via 3 RJ45 sockets (1 Bus In, 2 Bus Out) - Enables distribution of modules over several DIN rails or control cabinets	- System bus expansion via 1 RJ45 socket - Enables the side by side placement of modules via lateral system bus connection



JUMO smartWARE Evaluation – software for evaluating and visualizing the measurement data recorded by JUMO variTRON

Your advantages when recording data with the JUMO variTRON system

- JUMO variTRON 300 and 500 both have an integrated recording function for all incoming measured values
- Additional recording of the measurement status according to NAMUR NE 107
- Buffering of process data recording in case of network failure
- Recording of data from CODESYS such as program variables in the JUMO variTRON system
- Recording of fieldbus data such as PROFINET, BACnet, and EtherCAT
- Convenient configuration with intuitive setup program

Product name	JUMO variTRON 300	JUMO variTRON 500
Type	705003	705002
Recording channels:	Up to 60	Up to 240
Batches:	Up to 10	Up to 20
Measurement groups:	Up to 10	Up to 10
Internal memory:	Up to 1 million process values	Up to 20 million process values

Your advantages with process data evaluation

- Browser-based process data evaluation via individual, customizable dashboards
- Fast navigation and dashboard selection based on intuitive device and plant overview
- Plant-wide batch evaluation with flexible filter functions
- Data archive (Datastore) with manipulation detection based on digital certificates
- "Run anywhere": can be installed on desktop, server, or cloud using Docker technology
- Reduced costs for software administration, as maintenance is only required in one place

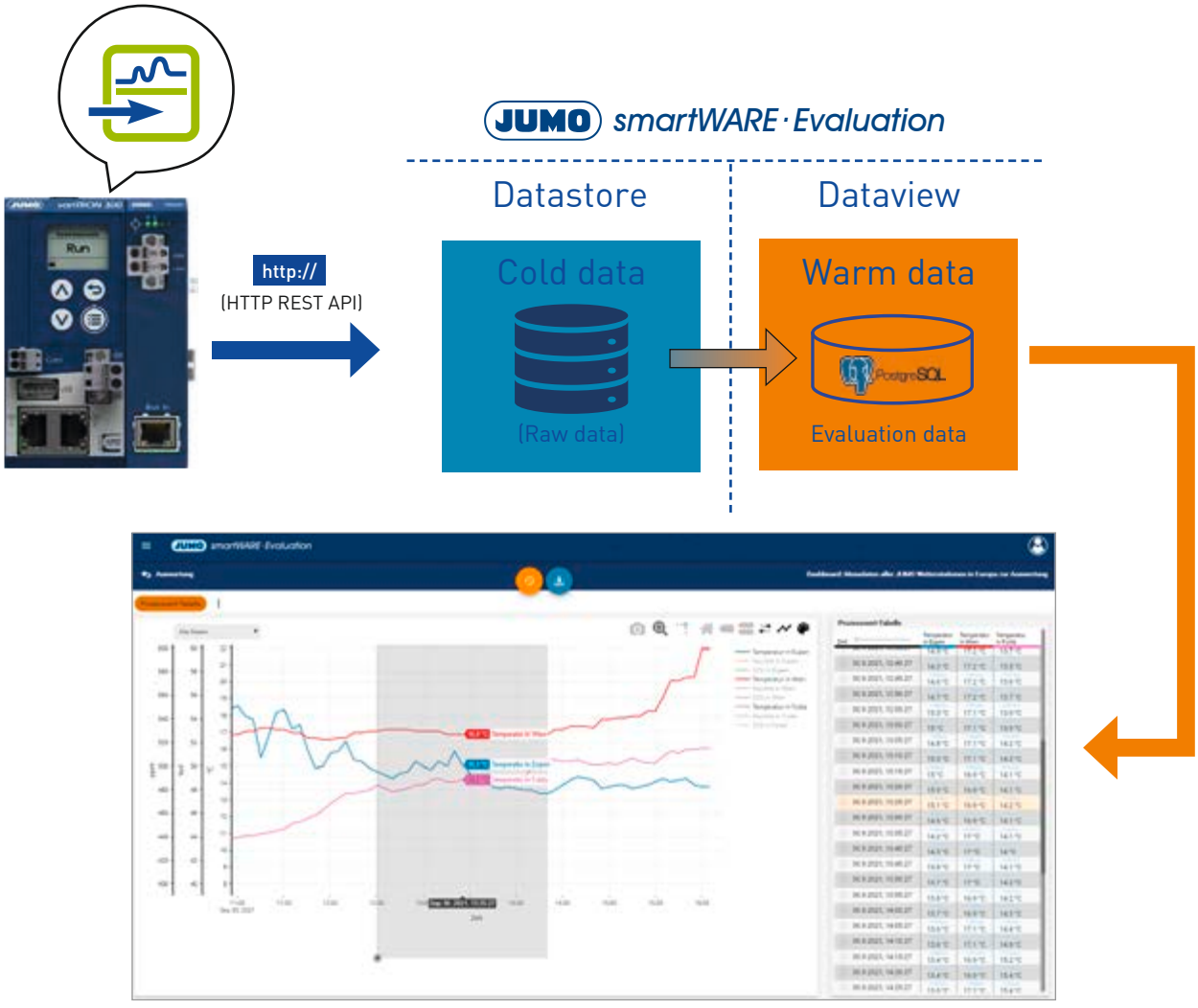
Fair licensing model: only pay for what you really use

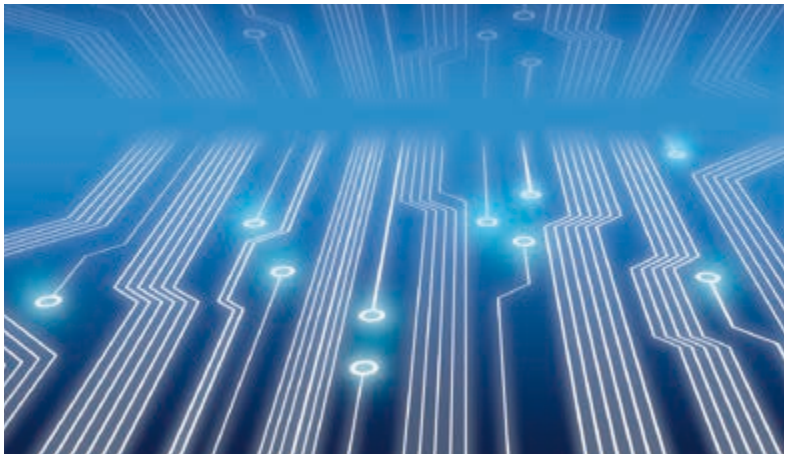
- Unlimited number of users
- License model based on the number of signals and batches that are evaluated
- Evaluation of up to 1500 signals

→ **Easily scalable, costs remain manageable and plannable**

Recording, archiving, evaluating

JUMO variTRON automation systems allow you to record your important process data and transfer it securely via Ethernet to the Datastore ("cold data") using the REST API interface. Manipulation detection allows it to provide a high degree of security for your recorded raw data. You determine how many signals you license for evaluation. These can then be visualized and evaluated as "warm data" in Dataview with all common browsers via individual dashboards.





From JUMO variTRON directly to the cloud

Visualizing, analyzing, and controlling processes

JUMO · CLOUD

Highly-scalable and high-performing IoT platform

Worldwide access to your process information

Type 701810

JUMO smartWARE · SCADA

Highly-scalable and high-performing digitization platform based on the JUMO Cloud

Billing not based on client accesses

Type 701820

- Compatible with JUMO variTRON family and connectable via Ethernet (JUMO variTRON as gateway)
- Maximum transparency in your processes with customizable user rights and dashboards
- Unlimited access to the dashboards using as many end devices (clients) as required via common web browsers, without having to install software, browser plug-ins, or add-ons
- More efficient reporting made possible due to outstanding report and export functions
- Alarm management through data evaluation, preparedness planning, and monitoring/remote alarm functions (text message, email, push message, phone call)

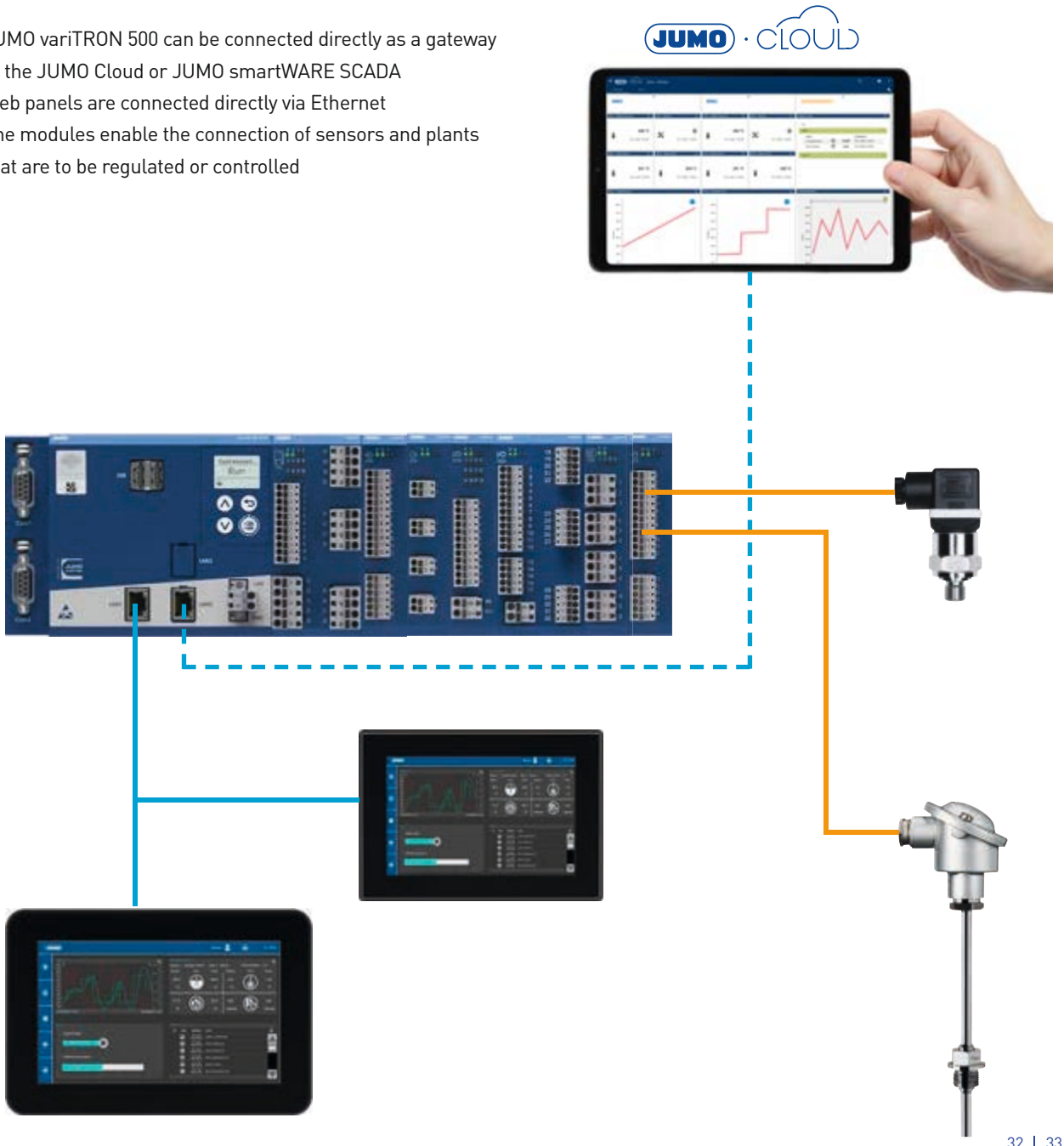
Many valuable properties:

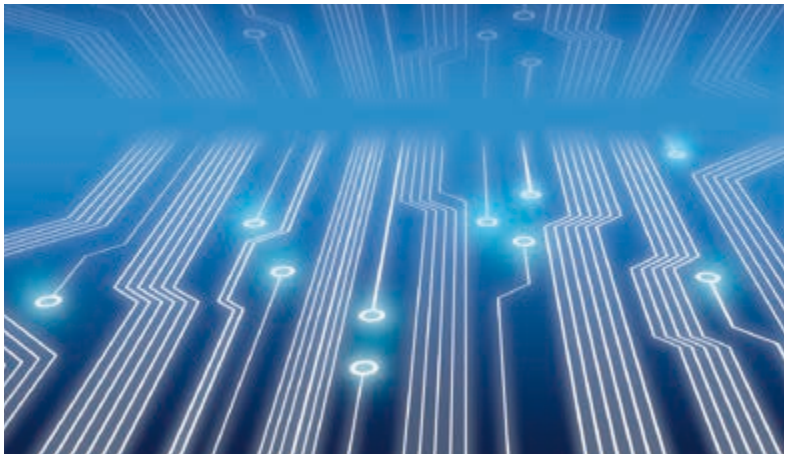
- Process visualization through editor with integrated animation and test tool as well as vector-based, self-scaling process screens
- End-to-end encryption, HTTPS, TLS, two-factor authentication (OTP)
- Extensive trend displays and reports with various diagrams, comparison functions, and export functions
- Timer and timer programs with unique events and series
- Modern drivers and protocols such as OPC UA, MQTT, and REST API

System structure – JUMO variTRON 500

With the JUMO Cloud

- JUMO variTRON 500 can be connected directly as a gateway to the JUMO Cloud or JUMO smartWARE SCADA
- Web panels are connected directly via Ethernet
- The modules enable the connection of sensors and plants that are to be regulated or controlled

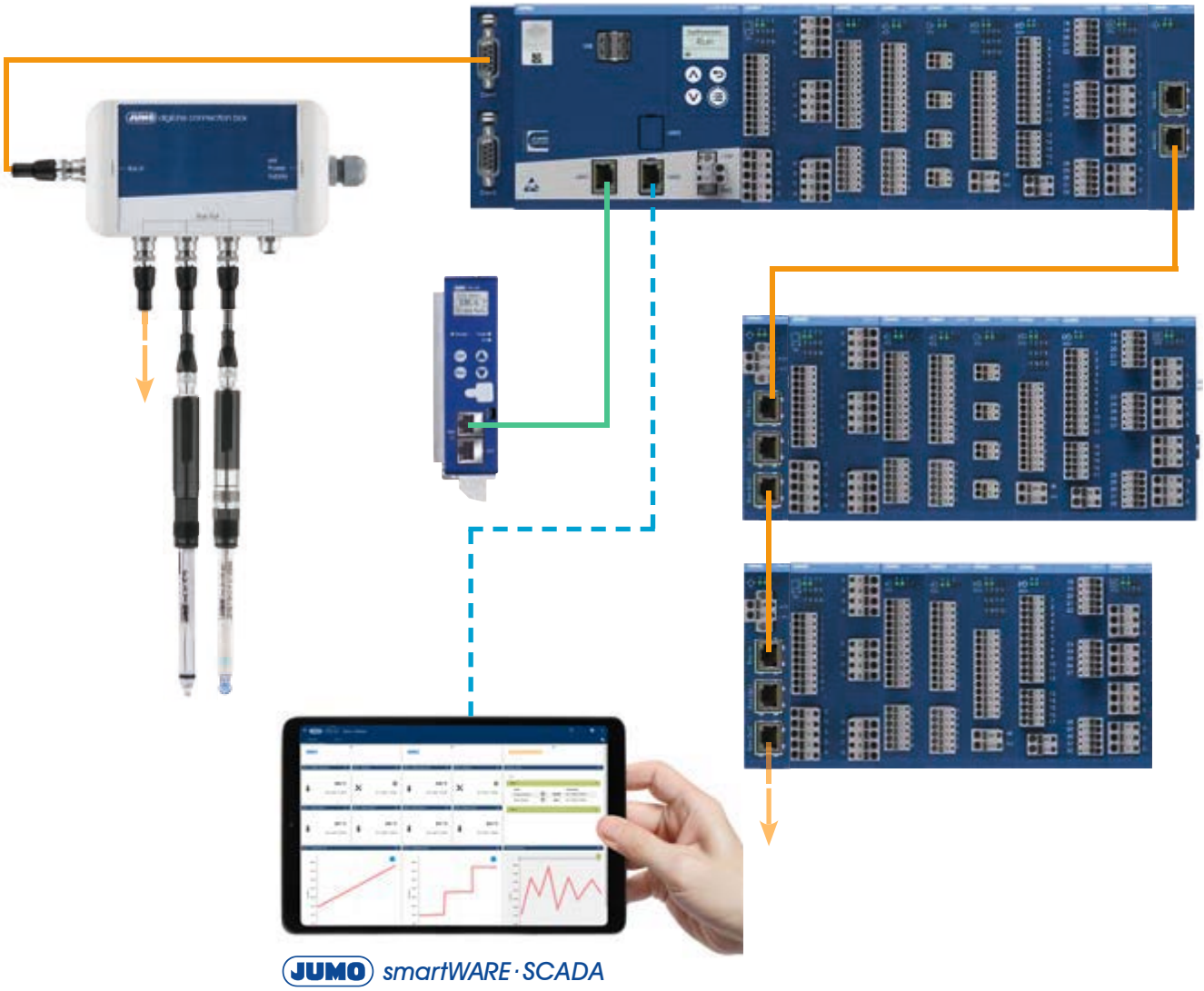




System expansion with router modules

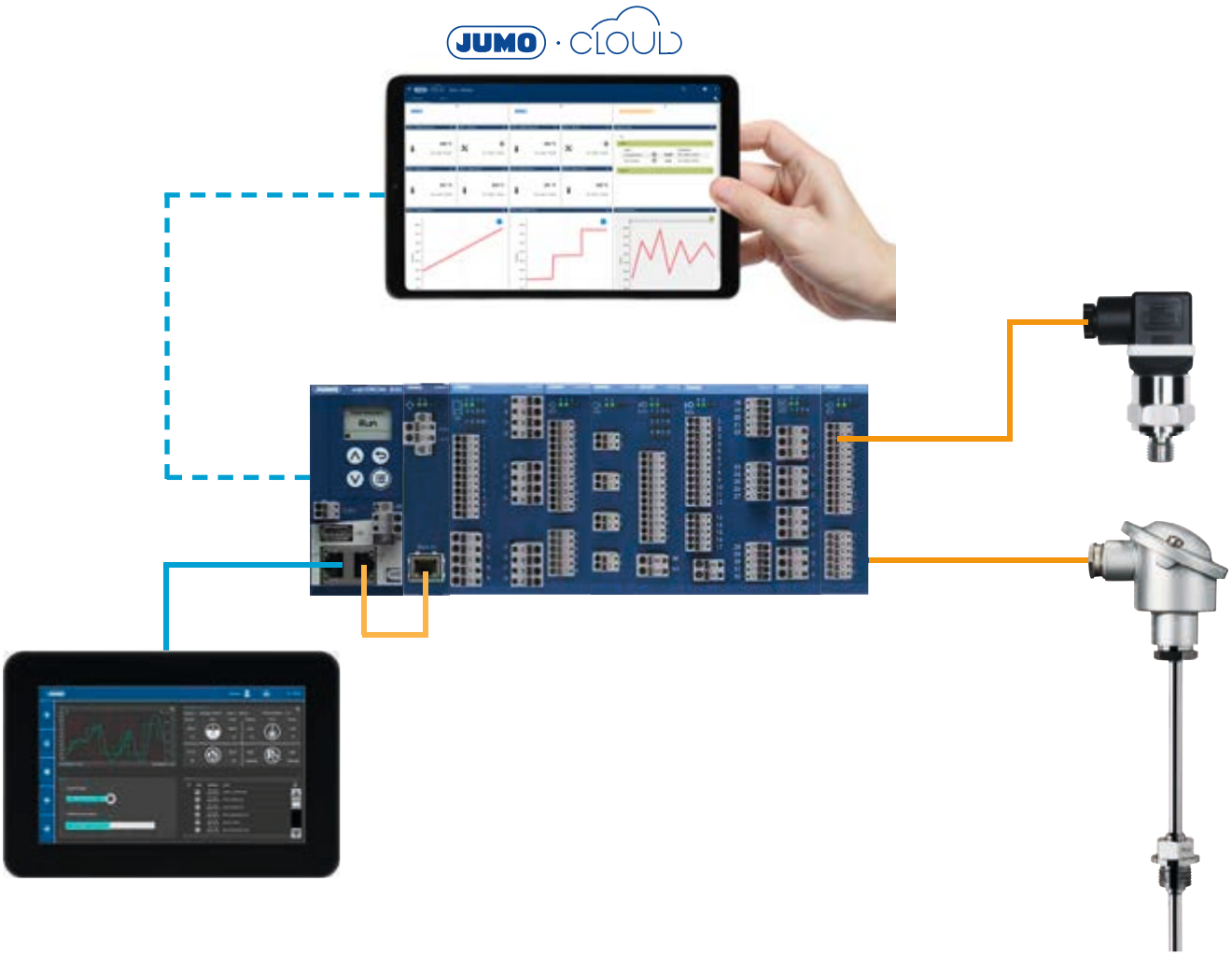
JUMO variTRON 500 with thyristor power controllers, JUMO digiLine, and JUMO smartWARE SCADA

- JUMO variTRON 500 can be extended via router modules in the control cabinet and even further – up to a maximum distance of 100 m
- Thyristor power controllers can be connected via EtherCAT or PROFINET
- Digital sensors, such as JUMO digiLine, can be connected via the COM port
- JUMO variTRON 500 can be connected directly as a gateway to the JUMO Cloud or JUMO smartWARE SCADA



JUMO variTRON 300 with JUMO Cloud

- JUMO variTRON 300 can be expanded with modules via the router module 1-port
- The device can be connected directly as a gateway to the JUMO Cloud or JUMO smartWARE SCADA
- Web panels are connected directly via Ethernet



Automation system JUMO mTRON T

JUMO mTRON T combines a universal measured value acquisition system with a precise control system offering intuitive operation. It can also be expanded into a complete automation solution. The scalability of the JUMO mTRON T allows it to be individually adapted to a particular task. The tamper-proof data recording is just one of the system's outstanding features. Control and data recording therefore meet the requirements of the AMS2750 and CQI-9 specifications.

JUMO automation system

The modular JUMO mTRON T uses an Ethernet-based system bus and an integrated PLC – even for decentralized automation tasks. The universally-applicable automation system combines JUMO's extensive process expertise with a simple, application-oriented, and user-friendly configuration concept.

Multifunction panel 840, type 705060

The panel with 8.4" TFT touchscreen (640 × 480 pixels, 256 colors) displays data and process statuses. Among other features, the panel's predefined screen masks for service, controller, program generator, and recording functions make the overall system easy to use.

Features:

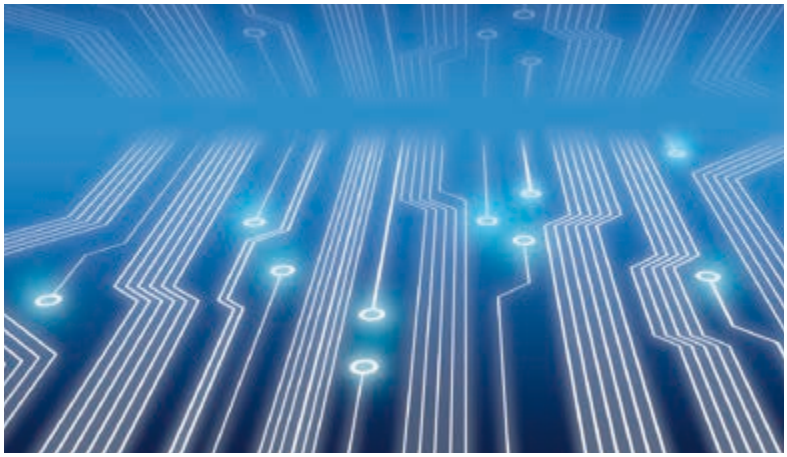
- Comprehensive user management: up to 16 user groups with individual rights allocation and up to 50 different users
- Individually-generated process screens in which measured value displays and input fields can be integrated
- Integrated paperless recorder for tamper-proof data recording of up to 54 analog and digital process values including batch logging
- Integrated web server
- Alarm and event lists
- Comprehensive interface connections: Ethernet/LAN, RS232, RS422/485, Modbus RTU and Modbus TCP (master/slave), USB host, USB device
- Robust metal case (die-cast aluminum), stainless steel optional, protection type (front): IP67

Central processing unit, type 705001

The central processing unit contains the process screen for your application with up to 30 input and output modules (including controller modules and power controllers but not including any router modules) while at the same time managing the configuration and parameter data of your system. A setup program is used for quick and convenient hardware/software configuration as well as project planning of the measured value acquisition tasks and control tasks.

Features:

- SPS CODESYS V3.5
- 9 program generators including process step function
- 64 limit value monitoring functions
- Math and logic modules
- Comprehensive interface connections: Ethernet/LAN, RS232, RS422/485, Modbus RTU as well as Modbus TCP (master/slave), PROFIBUS DP (slave), USB device
- Integrated web server
- Email functions (e.g. alarm for limit value violation)
- JUMO digiLine sensors for liquid analysis can be connected via PLC application
- User logon via interface (e.g. with RFID chip card via RS232)



Additional operating panels

Type 705065

The multifunction panel 840 acts as the human-machine interface for the JUMO mTRON T by default. When required, the automation system can be made even more flexible with additional operating panels.

Features:

- Touch-display from 3.5 to 21 inches in various resolutions with resistive or capacitive touchscreen
- Direct access to PLC variables
- Up to 4 operating panels can be connected to each JUMO mTRON T central processing unit

Input and output modules

Various modules are available as input and output modules. Examples include analog input module with universal inputs for thermocouples, RTD temperature probes, and voltage or current standard signals. As a result the same hardware can be used to precisely acquire and digitize a highly diverse range of process variables.

JUMO mTRON T enables simultaneous operation of up to 120 control loops, as a result of which it can cope with demanding processes. Through expansion slots the inputs and outputs of each controller module can be individually expanded and adapted. The control loops here operate fully independently, which means they do not require resources from the central processing unit. Power controllers can also be connected via the system bus.

In addition, JUMO digiLine sensors for liquid analysis can be connected directly to the central processing unit.

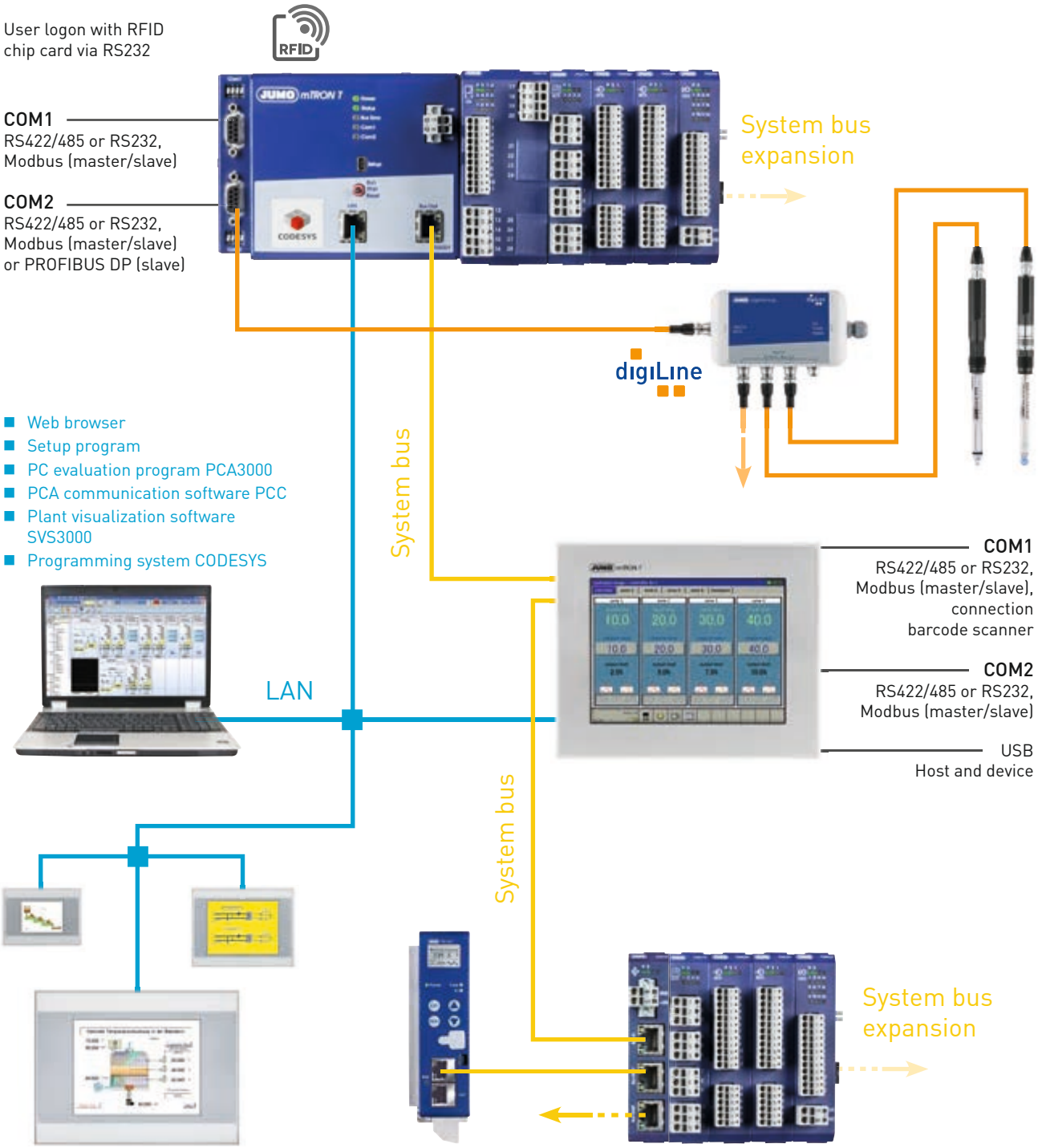



Modules	Multichannel controller module	Relay module 4-channel	Analog input module 4-channel	Analog input module 8-channel
Type	705010	705015	705020	705021
Features	- Up to 4 independently configurable PID control loops with a fast cycle time and proven control algorithms - Independent operation - Math and logic functions - Counting input up to 10 kHz	- 4 relay outputs controlled via the system bus by digital signals - Each changeover contact (230 V/3 A) - Switching statuses are displayed with LEDs	- 4 high-quality, user configurable analog inputs for RTD temperature probes, resistance transmitters, thermocouples, current 0(4) to 20 mA, voltage 0(2) to 10 V - All inputs are galvanically isolated from each other - Customer-specific linearization possible - Limit value monitoring function - Additional digital input	- 8 high-quality analog inputs for RTD temperature probes Pt100, Pt500, Pt1000 in 2-wire circuit - Limit value monitoring function - Additional digital input




Modules	Analog output module	Digital input or output module	Router module	Thyristor power controller JUMO TYA 200 series
Type	705025	705030	705040	709061, 709062, 709063
Features	- 4 configurable analog outputs 0(4) to 20 mA or 0(2) to 10 V - Adjustable output behavior in case a malfunction occurs	- 12 digital inputs or outputs - Each channel can be configured as an input DC 0/24 V or output DC 24 V - Capacity per output: 500 mA - Switching statuses are displayed with LEDs	Input and output modules can be divided between several mounting rails or control cabinets using a router module. This way, decentralized automation solutions are simple to implement.	- For 1-phase and 3-phase operation - Continuous load current up to 250 A, load voltage up to 500 V - Different circuit variants, load types and operating modes can be implemented

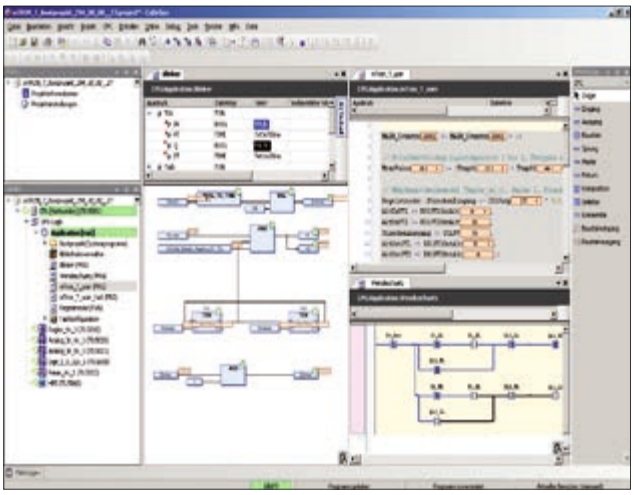
System structure



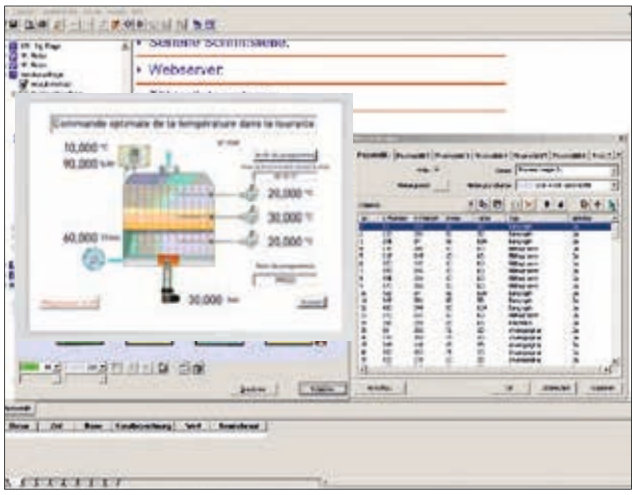
The option of individually presenting the plants, including their processes and individual sections, is very important to an automation system. For this purpose up to 18 process screens can be individually generated in the multifunction panel. In turn, up to 150 objects can be presented per process screen on up to 16 different levels.

Other than the necessary system functionality, project planning software that is as simple and intuitive to operate as possible was at the heart of JUMO's product development. For this reason, hardware/software configuration and project planning of the measured value acquisition tasks as well as control tasks using the setup program are carried out for the JUMO mTRON T with the same Look and Feel as other JUMO devices. To ensure an automation solution according to IEC 61131-3, access to the CODESYS programming system has been integrated in the JUMO setup program. This means that the hardware assignment and the description of the physical inputs and outputs are adopted automatically.

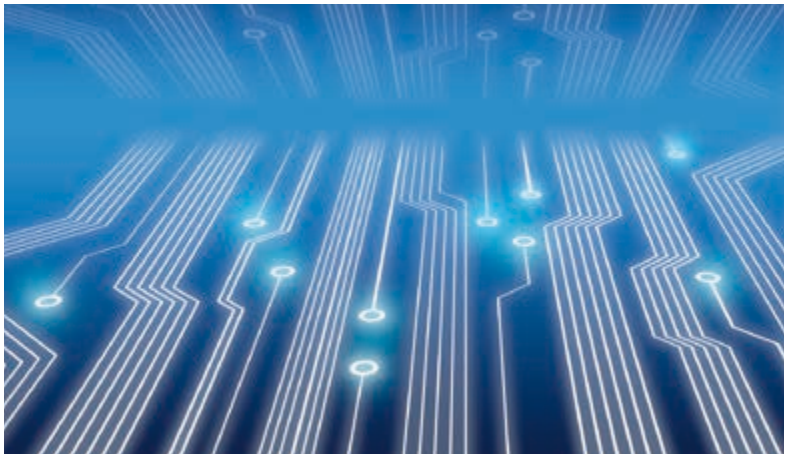
Project variables can then be defined and linked to a particular input or output address of the hardware assignment that appears in the device tree. All editors for programming the control application that are defined in the IEC 61131-3 standard are available in CODESYS. After programming the automation solution with CODESYS, the project data is adopted by the setup program again. As a result the complete application can be acquired in a project file, which greatly simplifies project management and version maintenance.



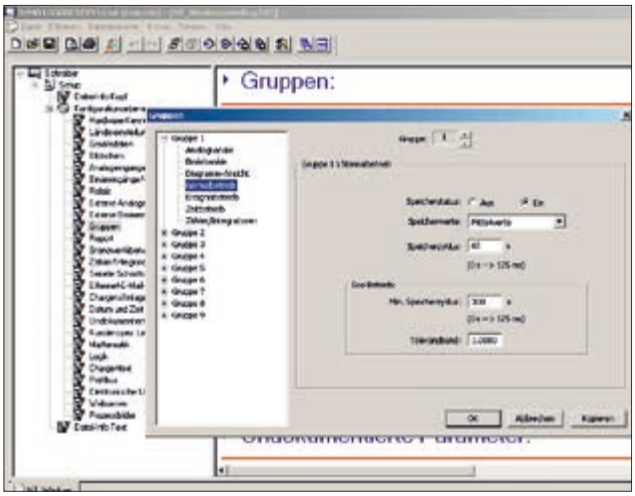
PLC programming system CODESYS V3.5

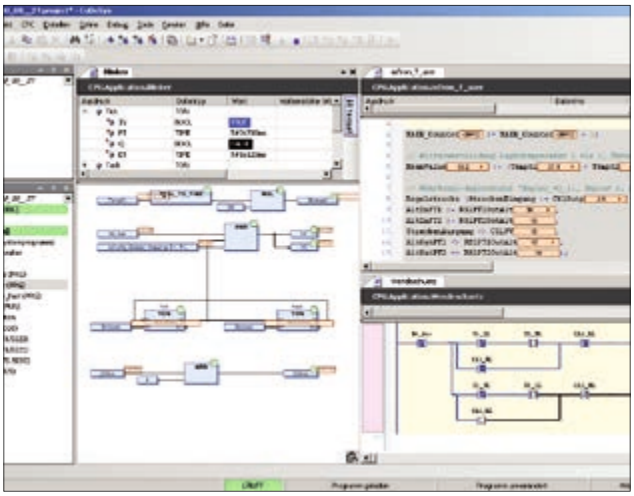


Setup program with process screen editor including process screen preview



PC software components





Setup program

The setup program is used – conveniently via the PC – for project planning and configuration of the respective device. Integrated auxiliary functions assist you in adjusting the device functions to your process or your application.

- User-friendly configuration, parameterization, and startup
- Diagnosis function (display of the process data)*
- Input of math and/or logic formulas*
- Program editor*
- Process screen editor*
- Easy printout of the configuration for documentation purposes**

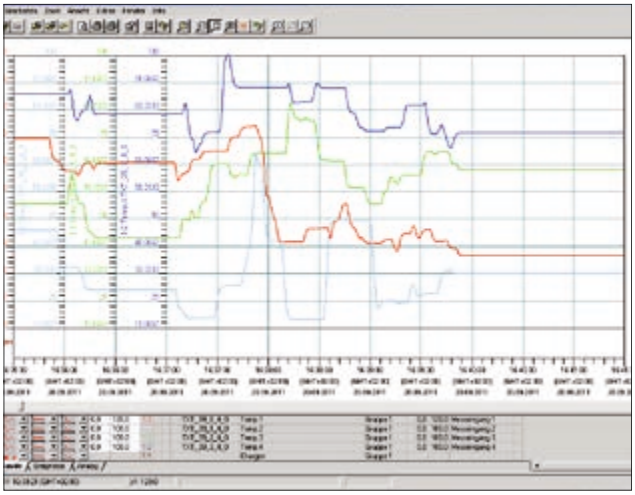
PLC programming system CODESYS V3.5

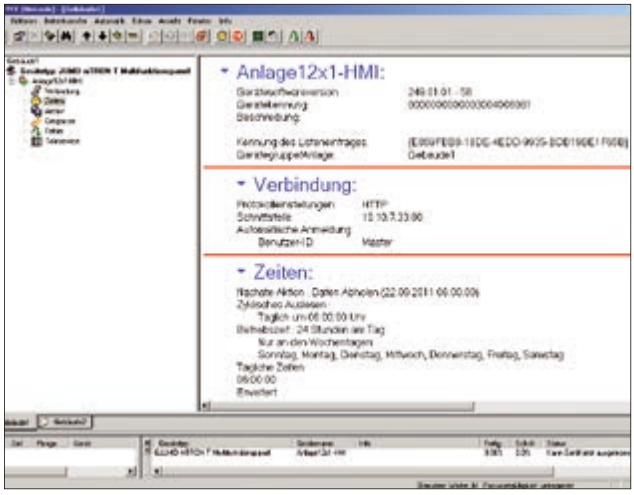
The CODESYS development environment which is implemented in the JUMO mTRON T is a comprehensive software tool for industrial automation. This widely used PLC programming system according to IEC 61131-3 can be used to implement almost all automation tasks.

All editors defined in the standard are available for programming your control applications:

- Editor for structured text (ST)
- Sequential function chart editor (SFC)
- Continuous function chart editor (CFC)
- Function block diagram editor (FBD)
- Ladder diagram editor (LD)
- Instruction list editor (IL)

* Included with the JUMO mTRON T automation system and certain JUMO compact controllers.
** Included with certain JUMO compact controllers; in preparation for the JUMO mTRON T automation system.





Evaluation program PCA3000

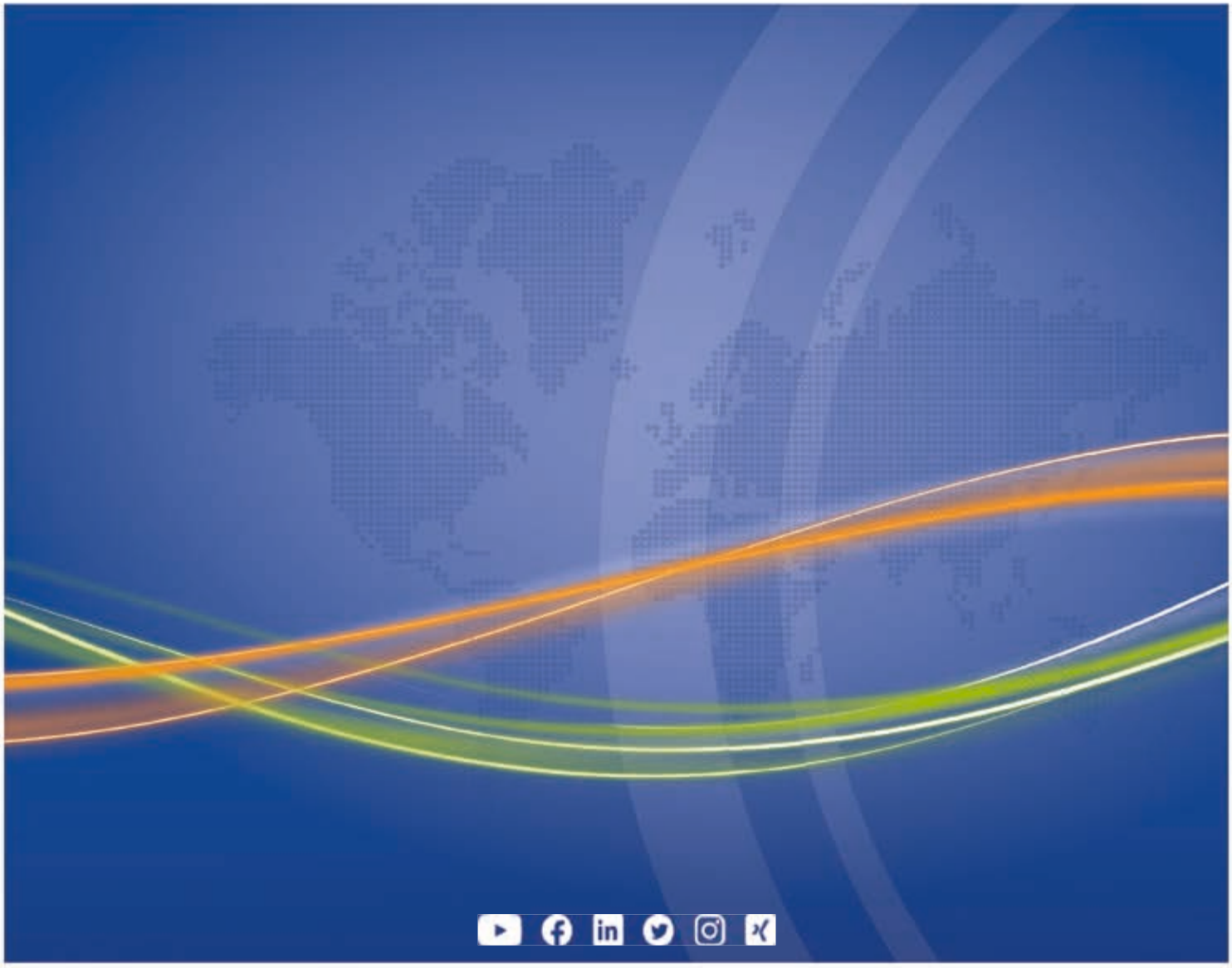
The PC-based professional evaluation program PCA3000 is used to manage, archive, visualize, and evaluate historical process data (measurement data, batch data, messages, etc.). The data can be imported via USB flash drive or memory card. It can also be made available for central data processing via the PCC communication software.

- Backup and archiving of all process data, manageable and simple in one data file
- Archived data can be directly read and visualized from the CD
- Graphic measured value processing: evaluation of measured data using a min/max search and zoom function (magnifying glass)
- Data export with PCA3000 form output in a variety of formats (CSV, HTML, PDF)

PCA communication software PCC

The PCC communication software, which is optimally adapted to PCA3000, enables easy data extraction via Ethernet, serial interface (USB, RS485), or modem.

- Time-controlled, automatic data extraction via interface or modem
- Backup and archiving of all process data on hard disk or network server, manageable and simple in one data file
- Diagnosis function (display of current process data via modem or Ethernet, etc.)
- Can be launched as a Windows® system service
- Email notification in the event of communication failure



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