Module and
Application Description

PROCONTROL P

Modules of the Turbine Control System

Analog Signal Multiplier

triple

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89AS30–E/R0100

Application

This module is used for converting and multiplying analog signals.

Features

The module is designed to process input signals of a level of 0 ... 20 mA or 4 ... 20 mA or 0 ... 10 V DC, the ranges being selected by means of jumpers. From the input signal, three output signals of 0 ... 20 mA or 4 ... 20 mA are formed which can be selected individually by using jumpers; also a signal of 0 ... 10 V is formed.

Description

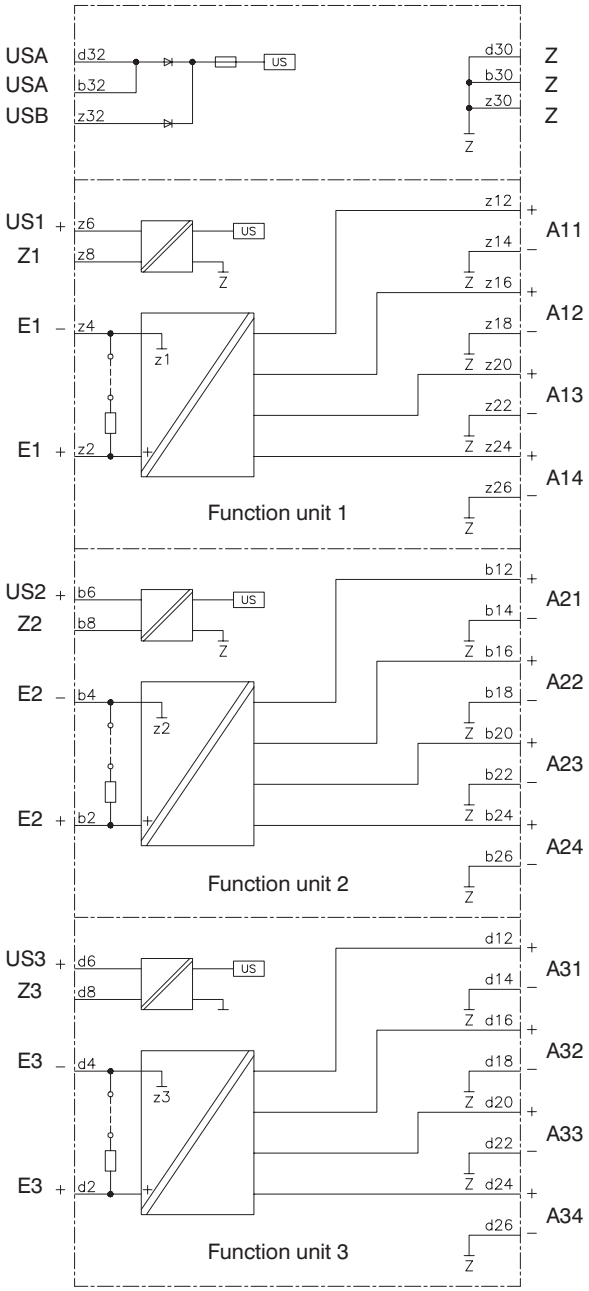
The inputs are electrically isolated from the rest of the circuitry. For supplying transmitters and other devices, a voltage of 15 V or 24 V DC is available for each input, also electrically isolated.

The module contains three identical function units. The outputs are separated.

Annunciation function

A green light–emitting diode on the front panel indicates when the module is ready for operation.

Function diagram



Settings

Type of input signals and output signals desired, and transmitter supply need to be selected by means of jumpers (JPxx).

Inputs

FE1 E1 FE2 E2 FE3 E3	JP10 JP20 JP30	JP11 JP21 JP31	JP12 JP22 JP32
	I U	I U	I U
0 ... 20 mA			
4 ... 20 mA			
0 ... 10 V			

Transmitter supply

US1 US2 US3	JP19 JP29 JP39
	24 V 15 V
15 V	
24 V	

Outputs

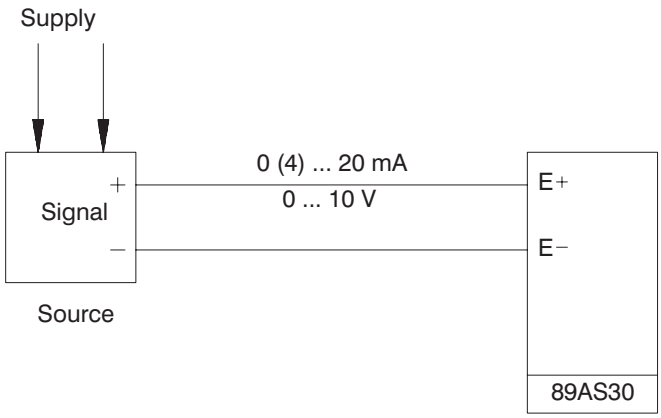
FE1 A11 FE2 A21 FE3 A31	JP13 JP23 JP33	JP14 JP24 JP34
	4 mA 0 mA	4 mA 0 mA
0 ... 20 mA		
4 ... 20 mA		

FE1 A12 FE2 A22 FE3 A32	JP15 JP25 JP35	JP16 JP26 JP36
	4 mA 0 mA	4 mA 0 mA
0 ... 20 mA		
4 ... 20 mA		

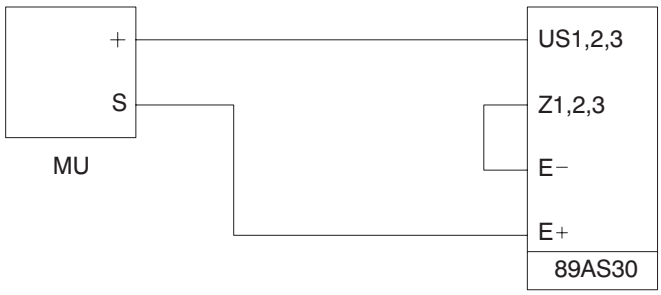
FE1 A13 FE2 A23 FE3 A33	JP17 JP27 JP37	JP18 JP28 JP38
	4 mA 0 mA	4 mA 0 mA
0 ... 20 mA		
4 ... 20 mA		

Connection diagrams

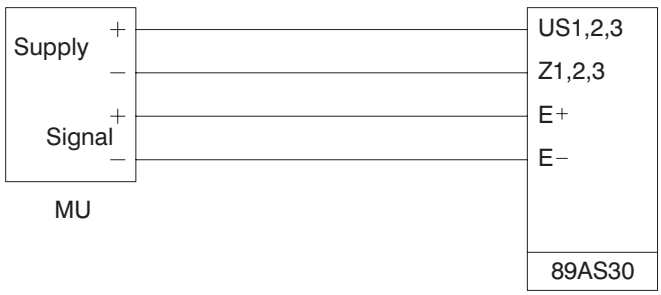
Connection of externally supplied signal sources



Connection of twin–core transducers



Connection of four–core transducers
Possible only if their current consumption < 25 mA



Mechanical design

Board size: 3 units, 1 division, 160 mm deep

Connector: to DIN 41 612

1 x 48−pole edge connector, type F

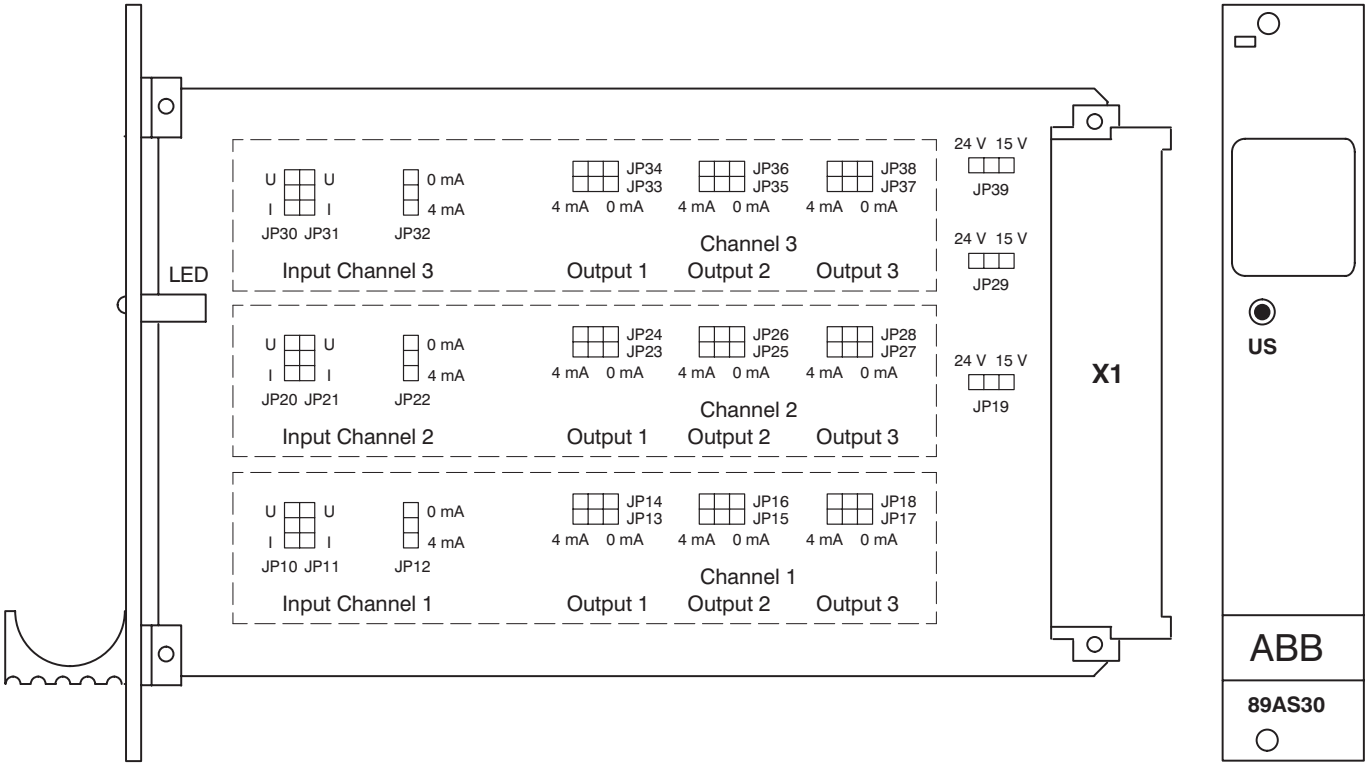
Weight: approx. 0.3 kg

Contact assignments of connector X1

View of the contact side:

	d	*b*	*z*
02	E3+	E2+	E1+
04	E3−	E2−	E1−
06	US3+	US2+	US1+
08	Z3	Z2	Z1
10			
12	A31+	A21+	A11+
14	A31−	A21−	A11−
16	A32+	A22+	A12+
18	A32−	A22−	A12−
20	A33+	A23+	A13+
22	A33−	A23−	A13−
24	A34+	A24+	A14+
26	A34−	A24−	A14−
28			
30	Z	Z	Z
32	USA	USA	USB

Side view with jumper positions and view of module front



Technical data

In addition to the system data, the following values apply:

Power supply

Supply voltage	+24 V DC
Current consumption	approx. 110 mA + output currents

Input values E1, E2, E3

Voltage input	0 ... 10 V (max. 30 V)
Input resistance	> 100 kOhm
Current input	0 ... 20 mA, 4 ... 20 mA
Load resistance RB	55 Ohm

Transmitter supply US1, US2, US3

Selectable by means of jumpers	15 V DC, max. 25 mA 24 V DC, max. 25 mA

Output values

Current outputs A11, A12, A13, A21, A22, A23, A31, A32, A33 selectable by means of jumpers	0 ... 20 mA 4 ... 20 mA
Max. burden RB	1000 Ohm
Voltage outputs A14, A24, A34	0 ... 10 V (max. 12 V)
Max. current	5 mA

Transmission values

Transmission error at input/output within the permissible temperature range and the permissible Supply voltage tolerances	≤ 0.3 %
Signal delay	< 1 msec

ORDERING DATA

Type designation: 89AS30−E/R0100	Order number: GKWN000317R0100

Technical data are subject to change without notice!

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