Binary and analog inputs freely usable via bus
Add. version Y33

1 Description

The additional order code „Y33“ enables the connection of conventional, not fieldbus capable sensors to the fieldbus network via the binary and/or analog inputs of the SIPOS 5 actuator.

Depending on the electronics version of the actuator up to 4 binary inputs (OPEN, CLOSE, STOP, EMERGENCY) and 2 analog inputs are available.

Binary input EMERGENCY and Analog input 2 (Option) only for PROFITRON and HiMod

The voltage signal (0/24 VDC resp. 0/48 VDC) resp. current signal (0/4 – 20 mA) of the sensor is digitally transferred as actual value via the actuator control unit.

For the PROFITRON/HiMod version the analog inputs (rising/falling slope, range 0 – 20 mA/ 4 – 20 mA) and the binary inputs (high/low active) can be programmed.

2 PROFIBUS

The inputs can be read („r“ = read) via the cyclic or acyclic telegram (DP V1).

For the PROFIBUS configuration, the process description PPO2 must be selected.

With the PC parameterization program COM-SIPOS, tab sheet „Bus / Other“ up to four process data from sensors can be selected (PZD 3 to PZD 6) without programming in clear text.

For the PROFITRON/HiMod version the process data (PZD 3 to PZD 6) can be preset directly through the parameter numbers (ParNo).

In the moment the parameterization of the process data is only possible via COM-SIPOS!

The process data thus will be transmitted cyclically in every PROFIBUS telegram as PZD 3 - 6.

2.1 Cyclic telegram

The parameter numbers 18, 19, 25, 26 and 27 are reserved for this (see table):

Par. No	Function		Data type	ECOTRON	PROFITRON, HiMod
18	**Analog inputs, *independent*** of parameterization		unsigned 32		r
	0 – 15	Analog input 1: 0 – 10,000 scaling (0 = 0 mA, 10,000 = 20 mA)		---	r
	16 – 31	Analog input 2 (Option): 0 – 10,000 scaling (0 = 0 mA, 10,000 = 20 mA)		---	r
19	**Binary inputs, *independent*** of parameterization high/low active		unsigned 16		
	0	Binary input CLOSE		r	r
	1	Binary input OPEN		r	r
	2	Binary input STOP		r	r
	3	Binary input EMERGENCY		---	r

Par. No	Function		Data type	ECOTRON	PROFITRON, HiMod
25	**Binary inputs, *according*** parameterization high/low active		unsigned 16		
	0	Binary input CLOSE		r	r
	1	Binary input OPEN		r	r
	2	Binary input STOP		r	r
	3	Binary input EMERGENCY		---	r
	5	Open circuit analog input 1			r
	6	Open circuit analog input 2 (Option)			r
26	**Analog input 1**, 0 – 10,000 scaling ***according*** parameterization		unsigned 16	---	r
27	**Analog input 2** (Option)**,** 0 – 10,000 scaling ***according*** parameterization		unsigned 16	---	r

2.2 Acyclic read-function of PROFIBUS DP-V1

Only the parameters set in the menu “Control system” can be read acyclically.

Data record (Slot 1, Index 23), read “Analog inputs and binary inputs“, according parameterization

Byte. Bit	Name of parameters	Value range	Data type	ECOTRON	PROFITRON, HiMod
0.0	Binary input CLOSE	0 – 1	Bit	r	r
0.1	Binary input OPEN	0 – 1	Bit	r	r
0.2	Binary input STOP	0 – 1	Bit	r	r
0.3	Binary input EMERGENCY	0 – 1	Bit	---	r
0.5	Open circuit analog input 1	0 – 1	Bit		r
0.6	Open circuit analog input 2 (Option)	0 – 1	Bit		r
1.0	Analog input 1	0 – 10000	unsigned 16		r
3.0	Analog input 2 (Option)	0 – 10000	unsigned 16		r
total length 5 Byte					

3 MODBUS

The process data of the sensors can be read via the Input Registers i.e. Register-numbers 41, 42, 43, 44, 45 and 46 of the telegram (“r” = read).

The analog inputs set via the menu “Control system” (only PROFITRON/HiMod) are additionally readable via Register-number 1004 (identical with RegNo 45) and 1008 (identical with RegNo 46).

Reg. No	Function		Data type	ECOTRON	PROFITRON, HiMod
41	**Binary inputs,** ***independent*** of parameterization high/low active		unsigned 16		
	0	Binary input CLOSE		r	r
	1	Binary input OPEN		r	r
	2	Binary input STOP		r	r
	3	Binary input EMERGENCY		---	r
42	**Analog input 1,** ***independent*** of parameterization		unsigned 16		
		0 – 10,000 scaling (0 = 0 mA, 10,000 = 20 mA)		---	r
43	**Analog input 2** (Option)**,** ***independent*** of parameterization		unsigned 16		
		0 – 10,000 scaling (0 = 0 mA, 10,000 = 20 mA)		---	r
44	**Binary inputs,** ***according*** parameterization high/low active		unsigned 16		
	0	Binary input CLOSE		r	r
	1	Binary input OPEN		r	r
	2	Binary input STOP		r	r
	3	Binary input EMERGENCY			r
	5	Open circuit analog input 1		---	r
	6	Open circuit analog input 2 (Option)			r
45	**Analog input 1,** scaling ***according*** parameterization		unsigned 16		
		0 – 10,000 scaling		---	r
46	**Analog input 2** (Option)**,** scaling ***according*** parameterization		unsigned 16		
		0 – 10,000 scaling		---	r
1004	**Analog input 1,** scaling ***according*** parameterization		unsigned 16		
		0 – 10,000 scaling		---	r
1008	**Analog input 2** (Option)**,** scaling ***according*** parameterization		unsigned 16		
		0 – 10,000 scaling		---	r