Interface Description

COM/FMT500-IG/PB-EN

Thermal Mass Flowmeter Sensyflow FMT500-IG

PROFIBUS DPV1 3.0

Valid for software levels from 1.11

Thermal Mass Flowmeter
Sensyflow FMT500-IG

Interface Description

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07.2009

Valid for software levels from 1.11

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1 Acyclic data communication (DPV1)

1.1 Device Management Block

Slot	Index	Relative index	Parameter	Object data type	Store	Size	Acc.	Transport type	Default value	Mandatory (M) / Optional (O)
1	0	0	Directory Object	Array, uint16	C	1)	r	a	-	M
1	1	1	Composite_list Dir. Entry /	Array, uint16	C	1)	r	a	-	M
1	2 ... 8	2 ... 8	Directory_continuous	Array, uint16	C	1)		a	-	O
1	9 ... 13	9 ... 13	Reserved							

1) Device-dependant

1.2 Physical Block

Slot	Index	Relative index	Parameter	Object data type	Store	Size	Acc.	Transport type	Default value / allowed range	Mandatory (M) / Optional (O)
0	16	0	Block Object	DS-32	C	20	r	A	-	M
0	17	1	ST_REV	uint16	N	2	r	A	0	M
0	18	2	TAG_DESC	String	S	32	r,w	A	’	M
0	19	3	Strategy	uint16	S	2	r,w	A	0	M
0	20	4	Alert_Key	uint8	S	1	r,w	A	0	M
0	21	5	Target_Mode	Uint8	S	1	r,w	A	-	M
0	22	6	Mode_BLK actual permitted normal	DS-37	D	3	r	A	Block specific	M
0	23	7	Alarm_SUM	DS-42	D	8	r	A	0,0,0,0	M
0	24	8	SOFTWARE REVISION	String	Cst	16	r	A	-	M
0	25	9	HARDWARE REVISION	String	Cst	16	r	A	-	M
0	26	10	DEVICE MAN ID	Uint16	Cst	2	r	A	#VALUE!	M
0	27	11	DEVICE ID	String	Cst	16	r	A	"-'„iG“	M
0	28	12	DEVICE SER NUM	String	Cst	16	r	A	-	M
0	29	13	DIAGNOSIS	String	D	4	r	A	0	M
0	30	14	DIAGNOSIS EXTENSION	String	D	6	r	A	0	O
0	31	15	DIAGNOSIS MASK	String	Cst	4	r	A	-	M
0	32	16	DIAGNOSIS MASK EXTENSION	String	Cst	6	r	A	-	O
0	33	17	DEVICE CERTIFICATION	String	Cst	32	r	A	-	O
0	34	18	WRITE LOCKING	Uint16	N	2	r,w	A	2457	O
0	35	19	FACTORY RESET	Uint16	S	2	r,w	A	-	O
0	36	20	DESCRIPTOR	String	S	32	r,w	A	32 blanks	M
0	37	21	DEVICE MESSAGE	String	S	32	r,w	A	32 blanks	M
0	38	22	DEVICE INSTALL DATE	String	S	16	r,w	A	8 blanks	M
0	39	24	IDENT_NUMBER_ SELECTOR	Uint8	S	1	r,w	A	1	M
0	40	26 ... 32	Reserved by PNO							
0		32 ... 49	Reserved							
0	66	50	Manufacturer SAP Order No.	String	C	16	r	A	Order-specific	O
0	67	51	Manufacturer Default Mask	Uint8	S	1	R/W	A	0 0 ... 4	O
0	68	52	Manufacturer Language	Uint8	S	1	R/W	A	0 0 ... 3	O

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Physical Block (Continuation)

Slot	Index	Relative index	Parameter	Object data type	Store	Size	Acc.	Transport type	Default value / allowed range	Mandatory (M) / Optional (O)
0	69	53	Manufacturer Operating Hour Meter	String	S	4	R	A	- Years, days, hours, minutes	O
0	70	54	Manufacturer Cal. Date	String	C	4	R	A	- Day, month, year, res.	O
0	71	55	Manufacturer IrDa	Uint8	S	1	R/W	A	0 0 ... 1	O
0	72	56	Manufacturer Max. Temp.	Float	S	4	R	A	-	O
0	73	57	Manufacturer Min. Temp.	Float	S	4	R	A	-	O
0	74	58	Manufacturer Max. Flow	Float	S	4	R	A	-	O
0	75	59	Manufacturer Min. Flow	Float	S	4	R	A	-	O
0	76	60	Manufacturer Max. Housing Temp.	Float	S	4	R	A	-	O
0	77	61								

1.3 Flow

1.3.1 Transducer Block Flow (TB Flow)

Slot	Index	Relative index	Parameter	Object data type	Store	Size	Acc.	Transport type	Default value / allowed range	Mandatory (M) / Optional (O)
4	51	0	Block Object	DS-32	C	20	r	C/a	-	M
4	52	1	ST_REV	uint16	N	2	r	C/a	0	M
4	53	2	TAG_DESC	String	S	32	r,w	C/a	’	M
4	54	3	Strategy	uint16	S	2	r,w	C/a	0	M
4	55	4	Alert_Key	uint8	S	1	r,w	C/a	0	M
4	56	5	Target_Mode	uint8	S	1	r,w	C/a	-	M
4	57	6	Mode_BLK actual permitted normal	DS-37	D	3	r	C/a	Block specific	M
4	58	7	Alarm_SUM	DS-42	D	8	r	C/a	0,0,0,0	M
4	59	8	Calibr_Factor	float	S	4	r,w	A	Sensor specific	M
4	60	9	LOW_FLOW_CUTOFF	float	S	4	r,w	A	0	M
4	61	10								M
4	62	11								M
4	63	12	Zero_Point	float	S	4	r,w	A	Sensor specific	M
4	64	13	Zero_POINT_ADJUST	unit8 0:cancel 1:execute	N	1	r,w	A	0	M
4	65	14	Zero_Poinit_Unit	uint16	S	2	r,w	A	10xx	M
4	66	15	Nominal_Size	float	S	4	r,w	A	-	M
4	67	16	Nominal_Size_Unit	uint16	S	2	r,w	A	1013	M
4	68	17								
4	69	18								
4	70	19								
4	71	20								
4	72	21	Mass_FLOW	DS-33	D	5	r	A	-	M
4	73	22	Mass_FLOW_Unit	uint16	S	2	r,w	A	1322	M
4	74	23	Mass_Flow_LO_LIM	float	S	4	r,w	A	-	M
4	75	24	Mass_Flow_HI_LIM	float	S	4	r,w	A	-	M
4										
4										
4		43... 52	PNO Reserved							M
4	104	53	Manufacturer Parameter Characteristic Selection	Unit8	S	1	R,w	C,A	0	O
4	105	54	Number of Characteristics	Unit8	S	1	R	C,A		O
4	106	55	Characteristic 1 Title	String	S	1	R	C,A	-	O
4	107	56	Characteristic 2 Title	String	S	20	R	C,A	-	O
4	108	57	Characteristic 3 Title	String	S	20	R	C,A	-	O
4	109	58	Characteristic 4 Title	String	S	20	R	C,A	-	O
4	110	59	Characteristic_Free Title	String	S	20	R,W	C,A	-	O
4	111	60	Number_Interpolation_Points	Unit8	S	1	R,W	C,A	-	O
4										
4	121... 153	70 ... 102	Interpolation_Points_Free Characteristic	Array 2 x Float	S	8	R,W	C,A	-	O
4										

1.3.2 Function Block Flow Analog Input (AI)

Slot	Index	Relative index	Parameter	Object data type	Store	Size	Acc.	Transport type	Default value / allowed range	Mandatory (M) / Optional (O)
1	16	0	Block Object	float	S	4	r,w	C/a	Max. value	M
1	17	1	ST_REV							
1	18	2	TAG_DESC	float	S	4	r,w	C/a	Max. value	M
1	19	3	Strategy							
1	20	4	Alert_Key	float	S	4	r,w	C/a	Min. value	M
1	21	5	Target_Mode							
1	22	6	Mode_BLK actual permitted normal	float	S	4	r,w	C/a	Min. value	M
1	23	7	Alarm_SUM	DS-42		8	R	A	-	O
1	24	8	Batch			10	R	A	-	O
1	25	9		DS-39	D	16	r	C/a	0	O
1	26	10	OUT	DS-39	D	16	r	C/a	0	O
1	27	11	PV_scale	DS-39	D	16	r	C/a	0	O
1	28	12	Out_scale	DS-39	D	16	r	C/a	0	O
1	29	13	LIN_Type	DS-50	S	6	r,w	C/a	Disable	m
1	30	14	Channel	Octet-String	S	16	r,w	C/a	-	O
1	31									
1	32	16	PV_FTIME	Float	S	4	R/W	A	0.2 sec.	M
1	33	17	FSAFE_Type ***	UINT8	S	1	R/W	A		M
1	34	18	FSAFE_Value	Float	S	4	R/W	A		M
1	35	19	ALARM_HYS	Float	S	4	R/W	A		M
1	36									
1	37	21	HI_HI_LIM	Float	S	4	R/W	A	-	M
1	38									
1	39	23	HI_LIM	Float	S	4	R/W	A	-	M
1	40									
1	41	25	LO_LIM	Float	S	4	R/W	A	-	M
1	42									
1	43	27	LO_LO_LIM	Float	S	4	R/W	A	-	M
1	44									
1	45									
1	46	30	HI_HI_ALM	DS-39		16	R	A	-	O
1	47	31	HI_ALM	DS-39		16	R	A	-	O
1	48	32	LO_ALM	DS-39		16	R	A	-	O
1	49	33	LO_LO_ALM	DS-39		16	R	A	-	O
1	50	34	Simulate	DS-50		6	R/W	A	-	O
1	51	35	OUT_UNIT_TEXT	String		16	R/W	A	-	O
1		36 ... 44	Reserved by PNO							
1	61	45	First Manufacturer Parameter							
1	62									
1	63									
1	64									

1.4 Gas temperature

1.4.1 Transducer Block Gas Temperature (TB Temp)

Slot	Index	Relative index	Parameter	Object data type	Store	Size	Acc.	Transport type	Default value / allowed range	Mandatory (M) / Optional (O)
5	51	0	Block Object	DS-32	C	20	r	C/a	-	M
5	52	1	ST_REV	Uint16	N	2	r	C/a	0	M
5	53	2	TAG_DESC	String	S	32	r,w	C/a	’	M
5	54	3	Strategy	Uint16	S	2	r,w	C/a	0	M
5	55	4	Alert_Key	Uint8	S	1	r,w	C/a	0	M
5	56	5	Target_Mode	Uint8	S	1	r,w	C/a	-	M
5	57	6	Mode_BLK actual permitted normal	DS-37	D	3	r	C/a	block specific	M
5	58	7	Alarm_SUM	DS-42	D	8	r	C/a	0,0,0,0	M
5	59	8	Primary_value	DS-33	D	5	r	O/a	-	M
5	60	9	Primary_value_unit	Uint16	S	2	r,w	C/a	deg C	M
5	61	10	Secondary_value_1	DS-33	D	5	r	O/a	-	M
5	62	11	Secondary_value_2	DS-33	D	5	r	O/a	-	O
5	63	12	Sensor_meas_type	Uint8	S	1	r,w	C/a	0	M
5	64	13	Input_range (sensor1)	Uint8	S	1	r,w	C/a	0	M
5	65	14	Lin_type(sensor1)	Uint8	S	1	r,w	C/a	Pt100	M
5	66									
5	67									
5	68									
5	69									
5	70	19	Bias_1	Float	S	4	r,w	C/a	0	M
5	71	20	Bias_2	Float	S	4	r,w	C/a	0	O
5	72	21	Upper_sensor_Limit (sensor1)	Float	N	4	R/W	C/a	-	M
5	73	22	Lower_sensor_Limit (Sensor1)	Float	N	4	R/W	C/a	-	M
5	74									
5	75	24	Input_fault_gen	Uint8	D	1	R	A	-	M
5	76	25	Input_fault_1	Uint8	D	1	R	A	-	M
5	77	26	Input_fault_2	Uint8	D	1	R	A	-	O
5	78	27	Sensor_Wire_Check_1	Uint8	D	1	R	A		O
5	79	28	Sensor_Wire_Check_2	Uint8	D	1	R	A		O
5										
5										
5										
5										
5	84	33	Rj_temp	Float	D	4	R	C/a	-	O
5	85	34	Rj_type	Uint8	S	1	r,w	C/a	0	M
5	86	35	External_rj_value	Float	S	4	r,w	C/a	0	O
5	87	36	Sensor_connection (sensor1)	Uint8	S	1	r,w	C/a	1	M
5	88	37	Comp_wire_1	Float	S	4	r,w	C/a	0	M
5	89	38	Comp_wire_2	Float	S	4	r,w	C/a	0	O
5		52 ... 61	PNO Reserved							
5	113	62	Manufacturer Max. Housing Temp.	Float	S	4	r	C/a	-	O
5										
5										
5										

1.4.2 Function Block Gas Temperature Analog Input (AI)

Slot	Index	Relative index	Parameter	Object data type	Store	Size	Acc.	Transport type	Default value / allowed range	Mandatory (M) / Optional (O)
2	16	0	Block Object	float	S	4	r,w	C/a	Max. value	M
2	17	1	ST_REV							
2	18	2	TAG_DESC	float	S	4	r,w	C/a	Max. value	M
2	19	3	Strategy							
2	20	4	Alert_Key	float	S	4	r,w	C/a	Min. value	M
2	21	5	Target_Mode							
2	22	6	Mode_BLK actual permitted normal	float	S	4	r,w	C/a	Min. value	M
2	23	7	Alarm_SUM	DS-42		8	R	A	-	O
2	24	8	Batch			10	R	A	-	O
2	25			DS-39	D	16	r	C/a	0	O
2	26	10	OUT	DS-39	D	16	r	C/a	0	O
2	27	11	PV_scale	DS-39	D	16	r	C/a	0	O
2	28	12	Out_scale	DS-39	D	16	r	C/a	0	O
2	29	13	LIN_Type	DS-50	S	6	r,w	C/a	Disable	m
2	30	14	Channel	Octet-String	S	16	r,w	C/a	-	O
2	31									M
2	32	16	PV_FTIME	Float	S	4	R/W	A	0.2 sec.	M
2	33	17	FSAFE_Type ***	UINT8	S	1	R/W	A		M
2	34	18	FSAFE_Value	Float	S	4	R/W	A		M
2	35	19	ALARM_HYS	Float	S	4	R/W	A		M
2	36									
2	37	21	HI_HI_LIM	Float	S	4	R/W	A	-	M
2	38									
2	39	23	HI_LIM	Float	S	4	R/W	A	-	M
2	40									
2	41	25	LO_LIM	Float	S	4	R/W	A	-	M
2	42									
2	43	27	LO_LO_LIM	Float	S	4	R/W	A	-	M
2	44									
2	45									
2	46	30	HI_HI_ALM	DS-39		16	R	A	-	O
2	47	31	HI_ALM	DS-39		16	R	A	-	O
2	48	32	LO_ALM	DS-39		16	R	A	-	O
2	49	33	LO_LO_ALM	DS-39		16	R	A	-	O
2	50	34	Simulate	DS-50		6	R/W	A	-	O
2	51	35	OUT_UNIT_TEXT	String		16	R/W	A	-	O
2		36 ... 44	Reserved by PNO							
2	61	45	First manufacture Parameter							
2	62									
2	63									
2	64									

1.5 Totalizer

1.5.1 Function Block Totalizer (TOT)

Slot	Index	Relative index	Parameter	Object data type	Store	Size	Acc.	Transport type	Default value / allowed range	Mandatory (M) / Optional (O)
3	16	0	Block Object	DS-32	C	20	r	C/a	-	M
3	17	1	ST_REV	uint16	N	2	r	C/a	0	M
3	18	2	TAG_DESC	OctetString	S	32	r,w	C/a	’	M
3	19	3	Strategy	uint16	S	2	r,w	C/a	0	M
3	20	4	Alert_Key	uint8	S	1	r,w	C/a	0	M
3	21	5	Target_Mode	uint8	S	1	r,w	C/a	-	M
3	22	6	Mode_BLK actual permitted normal	DS-37	D	3	r	C/a	block specific	M
3	23	7	Alarm_SUM	DS-42	D	8	r	C/a	0,0,0,0	M
3	24	8	Batch	DS-67	S	10	r,w	C/a	0,0,0,0	M
3	25	9								
3	26	10	Total	DS-33	N	5	r	O/cyc	0	M
3	27	11	UNIT_TOT	uint16	S	2	r,w	C/a	Direct Integral of the Channel	M
3	28	12	Channel		S	2	r,w	C/a	-	M
3	29	13	Set_Tot	Uint8: 0:Totalize 1:Reset 2:PRESET	N	1	r,w	I/cyc	0:Totalize	M
3	30	14	Mode_Tot	uint8 0:Balanced 1:Pos_only 2:Neg_only 3:Hold	N	1	r,w	I/cyc	0:Balanced	M
3	31	15	Fail_Tot	uint8 0:Run 1:Hold 2:Memory	S	1	r,w	C/a	0:Run	M
3	32	16	Preset_Tot	Float	S	4	r,w	C/a	0	M
3	33	17	Alaram_Hys	Float	S	4	r,w	C/a	0	M
3	34	18	HI_HI_LIM	Float	S	4	r,w	C/a	Max. value	M
3	35	19	HI_LIM	Float	S	4	r,w	C/a	Max. value	M
3	36	20								
3	37	21								
3	38	22	HI_HI_ALM	DS-39	D	16	r	C/a	0	O
3	39	23	HI_HI_ALM	DS-39	D	16	r	C/a	0	O
3	40	24	HI_HI_ALM	DS-39	D	16	r	C/a	0	O
3	41	25	HI_HI_ALM	DS-39	D	16	r	C/a	0	O
3		26 ... 35	Reserved by PNO							M
3	52	36	Manufacturer Integrator Time	String	S	4	R	A	- Years, Days, Hours, Minutes	O

2 Status messages and diagnostics

2.1 Status messages

Status messages as information about the quality of the measuring signal are sent with readings in cyclic data exchange. They can be displayed in hexadecimal format for the measuring signals for “gas flowrate”, “temperature” and “integrator” (totalizer). Use the SERVICE MENU to call up these values or the function block. The status "BAD" indicates a system error; for more information. Status messages "0x80" ... "0x83" indicate correct readings.

The following tables provide information about status messages in hexadecimal and 8-bit formats.

Quality = bad

Hexadecimal status messages	Type
0x00 ... 0x03	Non-specific
0x04 ... 0x07	Configuration error
0x0C ... 0x0F	Device failure
0x10 ... 0x13	Sensor failure
0x1C ... 0x1F	Out of service

Quality = uncertain

Hexadecimal status messages	Type
0x40 ... 0x43	Non-specific
0x44 ... 0x47	Last usable value
0x54 ... 0x57	Engineering unit range violation

Quality = good (not cascade)

Hexadecimal status messages	Type
0x80 ... 0x83	Ok
0x84 ... 0x87	Update event
0x88 ... 0x8B	Active advisory alarm (prio. < 8)
0x8C ... 0x8F	Active critical alarm (prio. < 8)
0x90 ... 0x93	Unacknowledged update event
0x94 ... 0x97	Unacknowledged advisory alarm
0x98 ... 0x9B	Unacknowledged critical alarm
0xA4 ... 0xA7	Maintenance required

Quality

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0	Type
0	0	x	x	x	x	x	x	Bad
0	1	x	x	x	x	x	x	Uncertain
1	0	x	x	x	x	x	x	Good (not cascade)

Quality = bad

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0	Type
0	0	0	0	0	0	x	x	Non-specific
0	0	0	0	0	1	x	x	Configuration error
0	0	0	0	1	1	x	x	Device failure
0	0	0	1	0	0	x	x	Sensor failure
0	0	0	1	1	1	x	x	Out of service

Quality = uncertain

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0	Type
0	1	0	0	0	0	x	x	Non-specific
0	1	0	0	0	1	x	x	Last usable value
0	1	0	1	0	1	x	x	Engineering unit range violation

Quality = good (not cascade)

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0	Type
1	0	0	0	0	0	x	x	Ok
1	0	0	0	0	1	x	x	Update event
1	0	0	0	1	0	x	x	Active advisory alarm (prio. < 8)
1	0	0	0	1	1	x	x	Active critical alarm (prio. < 8)
1	0	0	1	0	0	x	x	Unacknowledged update event
1	0	0	1	0	1	x	x	Unacknowledged advisory alarm
1	0	0	1	1	0	x	x	Unacknowledged critical alarm
1	0	1	0	0	1	x	x	Maintenance required

Limits

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0	Type
x	x	x	x	x	x	0	0	Ok
x	x	x	x	x	x	0	1	Low limited
x	x	x	x	x	x	1	0	High limited
x	x	x	x	x	x	1	1	Constant

2.2 Diagnostics

In the SERVICE MENU for the unit, 8 diagnostic bytes are displayed in hexadecimal format “0xYZ”. The letter “Z“ stands for the value from bits 0 ... 3 listed in the following table, "Y" is for bits 4 ... 7.
Example: Diagnostic byte 1: 0x28
The value Y = 2, i.e. bit 5, is set and a sensor failure was detected.
The value Z = 8, i.e. bit 3, is also set and an elevated electronic unit temperature was detected.

Measuring mode without diagnosed error is displayed with “0x00” for all 8 diagnostic bytes.

If the unit detects an error and sets a diagnostic bit, the "E" symbol is displayed. The affected measuring signals are assigned the status “BAD” and the conditions for FLOW, TEMP and / or TOTAL defined for FAILSAFE behavior are activated.

The following table lists all diagnostic errors. For units in remote version, check the connections to the sensor and evaluation electronics when an asterisk (*) appears beside the message. If the error persists, contact the manufacturer service. This applies for all other error messages.

Diagnostic byte 1	Bit 7	6	5	4	3	2	1	0	Type
									Hardware failure of electronic
									Reserved
									Reserved
									Electronic temp. to high
									Memory error
*									Failure sensor
									Device not initialized
									Self-calibration failed

Diagnostic byte 2	Bit 7	6	5	4	3	2	1	0	Type
									Zero point error
									Power supply failed
									Configuration not valid
									Restart
									Cold start with default data
									Maintenance required
									Characteristics invalid
									Ident_Number violation

Diagnostic byte 3	Bit 7	6	5	4	3	2	1	0	Type
									Reserved
									Reserved
									Reserved
									Reserved
									Reserved
									Reserved
									Reserved
									Reserved

Diagnostic byte 4	Bit 7	6	5	4	3	2	1	0	Type
									Reserved
									Reserved
									Reserved
									Reserved
									Reserved
									Reserved
									Reserved
									Extension available

Diagnostic byte 5	Bit 7	6	5	4	3	2	1	0	Type
									COM module
									MT module
									Internal CAN Error
									Serial EEPROM Error
									Reserved
									Reserved
									Reserved
									Reserved

Diagnostic byte 6	Bit 7	6	5	4	3	2	1	0	Type
									CAL data error
									Gas temp. error
									Heater temp. error
*									Res. temp error
*									Sensor wire error
									Max. gas temp. error
									Reserved
									Reserved

Diagnostic byte 7	Bit 7	6	5	4	3	2	1	0	Type
									Total overflow
									Display overflow
									Reserved
									Reserved
									Reserved
									Reserved
									Reserved
									Reserved

Diagnostic byte 8	Bit 7	6	5	4	3	2	1	0	Type
									Reserved
									Reserved
									Reserved
									Reserved
									Reserved
									Reserved
									Reserved
									Reserved

3 Manufacturer-specific GSD file (Device data file)

```
;===============================================================
; GSD File for Profibus DP (EN 50170)
;===============================================================
;
; FILENAME   :    ABB_05CA.GSD
;---------------------------------------------------------------
; DEVICE     :    Sensyflow iG as Profibus DP-Slave
;---------------------------------------------------------------
; PROTOCOL   :   Profibus (Slave) DP + V1-Extensions without alarms
;---------------------------------------------------------------
; VENDOR     :    ABB Automation Products GmbH
;---------------------------------------------------------------
; AUTHOR     :    Harald Mueller
;                 FAX: ++49 (0)6023 / 92-3210
;                 E-Mail: harald.u.mueller@de.abb.com
;---------------------------------------------------------------
; DATE       :    31.05.2001
;---------------------------------------------------------------
; VERSION    :    1.0.0
;---------------------------------------------------------------
; HISTORY    :    0.9.0 -          Pre-Version          31.05.2001          HMü
;                 1.0.0            Version 1.00         31.07.2001          Hmü
;===============================================================
#Profibus_DP
; only for GSD-Rev. 3.0
; Enable by removing the                ';' character in front of the line
; Disable by insert                     ';' character in front of the line next line
; GSD_Revision = 3
; only for GSD-Rev. 2.0
; Enable by removing the                ';' character in front of the line
; Disable by insert                     ';' character in front of the line next line
GSD_Revision = 2
;===============================================================
Vendor_Name = "ABB Automation"          ; max 32 characters
Model_Name = "ABB Sensyflow iG"         ; max 32 characters
Revision = "Version 1.0.0"              ; Version of this file (see HISTORY)
Ident_Number = 0x05CA                   ; PNO ID

Protocol_Ident      = 0                 ; Profibus-DP
Station_Type        = 0                 ; DP-slave
Hardware_Release = "1.0.1"              ; of the slave (Communication Interface)
Software_Release = "1.0.1"              ; of the slave (Communication Interface)
FMS_supp = 0                    ; 0 = only DP, 1 = DP and FMS

9.6_supp = 1
19.2_supp = 1
45.45_supp = 1
93.75_supp = 1
187.5_supp = 1
500_supp = 1
1.5M_supp = 1
3M_supp = 0
6M_supp = 0
12M_supp = 0

MaxTsdr_9.6 = 60
MaxTsdr_19.2 = 60
MaxTsdr_45.45 = 60
MaxTsdr_93.75 = 60
MaxTsdr_187.5 = 60
MaxTsdr_500 = 100
MaxTsdr_1.5M = 150
MaxTsdr_3M = 250
```

```
MaxTsdr_6M = 450
MaxTsdr_12M = 800

Redundancy = 0                          ; no redundancy transmission
Repeater_Ctrl_Sig = 0

24V_Pins = 0

;=============================================================
; Slave specific Data
;=============================================================
Freeze_Mode_supp        = 1             ; no Freeze_Mode_supp, support in later version
Sync_Mode_supp          = 1             ; no Sync_Mode_supp, support in later version
Auto_Baud_supp          = 1
Set_Slave_Add_supp      = 1
Min_Slave_Intervall     = 50             ; Slave Intervall-Time  5 ms

;=============================================================
; Bitmap, Order No, ASIC
;=============================================================
Implementation_Type = "SPC3"
Bitmap_Device = "ABB05CAn"              ; symbolic representation in standard cases
Bitmap_Diag = "ABB05CAd"                ;symbolic representation for diagnostic cases
Bitmap_SF = "ABB05CAs"                  ; symbolic representation in spec. oper. modes

OrderNumber = "Automation Products"     ; user defined keyword, known in COM Profibus
;=============================================================
; Ext_User_Prm_Data_Ref
;=============================================================
Max_User_Prm_Data_Len                   = 3
Ext_User_Prm_Data_Const(0)              = 0x84,0x00,0x00; DPV1 parameters
;DPV1 status1                           = 0x84 =>
;       Bit2                            = 0 WD_Base=10ms (1ms=1)
;       Bit7                            = 1 DPV1 Enable (Disable = 0)
;DPV1 status2                           = 0x00 =>
;       Bit0                            = 0 ChkCfg nach EN50170(User specific = 1)
;DPV1 tatus3                            = 0x00 =>
;       alarm not implemented
;=============================================================================
; Module Definition
;=============================================================================
Modular_Station         = 1
Max_Module              = 4
Max_Input_Len           = 15            ; 4 x ( 4 Byte real Format + Status Byte)
Max_Output_Len          = 9             ; 1 Byte Gas Characteristics + 1 Byte Total. no Profile 3.0 + 4 Byte real Format + 1
Byte Status
                                        ; + 2 Byte Total
Max_Data_Len            = 24            ; Max_Output_Len + Max_Input_Len
Max_Diag_Data_Len       = 14
Slave_Family            = 3             ; no specification
;Gerätespezifische Diagnose Byte 1
Unit_Diag_Bit(24)   = "Hardware failure"
Unit_Diag_Bit(25)   = "Reserved"
Unit_Diag_Bit(26)   = "Reserved"
Unit_Diag_Bit(27)   = "Electromic Temp. to high"
Unit_Diag_Bit(28)   = "Memory error"
Unit_Diag_Bit(29)   = "Sensor failure"
Unit_Diag_Bit(30)   = "Device not initialized"
Unit_Diag_Bit(31)   = "Selfcalibration failed "
```

```
;Gerätespezifische Diagnose Byte 2
Unit_Diag_Bit(32)   = "Zero Point Error"
Unit_Diag_Bit(33)   = "Power supply failed"
Unit_Diag_Bit(34)   = "Confi. not valid"
Unit_Diag_Bit(35)   = "Restart"
Unit_Diag_Bit(36)   = "Coldstart with default data"
Unit_Diag_Bit(37)   = "Maintenance required"
Unit_Diag_Bit(38)   = "Characteristics invalid"
Unit_Diag_Bit(39)   = "Ident_Number violation"
;Gerätespezifische Diagnose Byte 3
Unit_Diag_Bit(40)   = "Reserved"
Unit_Diag_Bit(41)   = "Reserved"
Unit_Diag_Bit(42)   = "Reserved"
Unit_Diag_Bit(43)   = "Reserved"
Unit_Diag_Bit(44)   = "Reserved"
Unit_Diag_Bit(45)   = "Reserved"
Unit_Diag_Bit(46)   = "Reserved"
Unit_Diag_Bit(47)   = "Reserved"
;Gerätespezifische Diagnose Byte 4
Unit_Diag_Bit(48)   = "Reserved"
Unit_Diag_Bit(49)   = "Reserved"
Unit_Diag_Bit(50)   = "Reserved"
Unit_Diag_Bit(51)   = "Reserved"
Unit_Diag_Bit(52)   = "Reserved"
Unit_Diag_Bit(53)   = "Reserved"
Unit_Diag_Bit(54)   = "Reserved"
Unit_Diag_Bit(55)   = "Extention available"
;Gerätespezifische Diagnose Byte 5
Unit_Diag_Bit(56)   = "KOM-Modul"
Unit_Diag_Bit(57)   = "MT-Modul"
Unit_Diag_Bit(58)   = "Internal CAN error"
Unit_Diag_Bit(59)   = "Serial EEPROM error"
Unit_Diag_Bit(60)   = "Reserved"
Unit_Diag_Bit(61)   = "Reserved"
Unit_Diag_Bit(62)   = "Reserved"
Unit_Diag_Bit(63)   = "Reserved"
;Gerätespezifische Diagnose Byte 6
Unit_Diag_Bit(64)   = "Kal-Data error"
Unit_Diag_Bit(65)   = "Gastemp. error"
Unit_Diag_Bit(66)   = "Heatertemp. error "
Unit_Diag_Bit(67)   = "Res. temp. error"
Unit_Diag_Bit(68)   = "Sensor wire error"
Unit_Diag_Bit(69)   = "Max. Gastemp. error"
Unit_Diag_Bit(70)   = "Reserved"
Unit_Diag_Bit(71)   = "Reserved"
;Gerätespezifische Diagnose Byte 7
Unit_Diag_Bit(72)   = "Totaloverflow"
Unit_Diag_Bit(73)   = "Display overflow"
Unit_Diag_Bit(74)   = "Reserved"
Unit_Diag_Bit(75)   = "Reserved"
Unit_Diag_Bit(76)   = "Reserved"
Unit_Diag_Bit(77)   = "Reserved"
Unit_Diag_Bit(78)   = "Reserved"
Unit_Diag_Bit(79)   = "Reserved"
```

```
;Gerätespezifische Diagnose Byte 8
Unit_Diag_Bit(80)   = "Reserved"
Unit_Diag_Bit(81)   = "Reserved"
Unit_Diag_Bit(82)   = "Reserved"
Unit_Diag_Bit(83)   = "Reserved"
Unit_Diag_Bit(84)   = "Reserved"
Unit_Diag_Bit(85)   = "Reserved"
Unit_Diag_Bit(86)   = "Reserved"
Unit_Diag_Bit(87)   = "Reserved"
;===============================================================================
; Modul Definition
;===============================================================================
Module = "Empty_Module"                 0x00
1
EndModule
Module = "Massflow"                     0x42,0x84,0x08,0x05
2
EndModule
Module = "Gastemp."                     0x42,0x84,0x08,0x05
3

EndModule
Module = "Total"                         0x41,0x84,0x85
4
EndModule
Module = "SET_Total"                    0xC1,0x80,0x84,0x85
5
EndModule
Module = "SET/MODE_Total"               0xC1,0x81,0x84,0x85
6
EndModule
;Special iG-Feature
; Enable by removing the ';' character in front of the line
; Disable by insert ';' character in front of the line
; Warning Removing/insert the character only in the next two lines
Module = "Characteristics-Input"
                0xA6            ; Gas Characteristics 0..4 if Enabled, Total-Special-Function
7
EndModule

;Modul Assignment
; only for GSD-Rev. 3.0
; Enable by removing the ';' character in front of the line
; Disable by insert ';' character in front of the line
; Warning Removing/insert the character only in the next five lines
;SlotDefinition
;Slot(1) = " Analog Input"          = 2 1,2,3       ;Empty,Massflow,Gastemp.
;Slot(2) = " Analog Input"          = 3 1,2,3       ;Empty,Gastemp.
;Slot(3) = " Totalizer"             = 4 1,4,5,6,7   ;Empty,Total,SET_Tot.,SET/MODE_Tot.,Character.-Input
;Slot(4) = " Characteristics-Input" = 7 1,7         ;Empty,Character.-Input
;===============================================================================
; END of File
;===============================================================================
```

4 Parameter sheet

Main Menu	Submenu level 1	Factory setting	Customer setting
Display of gas temperature, flow value, character. curve Display of flow value, numerically and bar graph Display of totalizer value and flow value Display of gas temperature Display of totalizer value and time		Factory setting	
OPERATION MODE	STANDARD SPECIALIST → Password SERVICE → Password	Factory setting	
PARAMETER MENU	LANGUAGE	Acc. to customer info	
	DP SLAVE ADDRESS	126	
	CHARACTER. CURVE	No. 1 (Calibration cert.)	
	DEFAULT DISPLAY	Temp / Flow / Character	
	DP EXTDIAG. ON/OFF	OFF	
PROFIBUS MENU	SUB MENUS → Level 2		

PROFIBUS MENU	Submenu level 1	Factory setting	Customer setting
TB FLOW MENU	CALIBRATION FACTOR	1	
	LOW FLOW CUT-OFF	0	
	ZEROPOINTCORR ON/OFF	OFF	
	ZEROPOINT VALUE	0	
	MASSFLOW UNIT	Acc. to char. curve	
	MASSFLOW MIN	0	
	MASSFLOW MAX	Cal. Full Scale Value	
AI FLOW MENU	FLOW PV_SCALE HIGH	Cal. Full Scale Val. x 1.3	
	FLOW PV_SCALE LOW	0	
	OUT_SCALE AT 100%	Cal. Full Scale Val. x 1.3	
	OUT_SCALE_AT 0%	0	
	FLOW FAILSAFE TYPE	FAIL SAFE OUT	
	FAIL SAFE VALUE	0	
	FLOW FILTER TIME	0.4 s	
	FLOW ALARM HYSTER.	0	
	FLOW MAX ALARM	Cal. Full Scale Val. x 1.2	
	FLOW MAX WARNING	Cal. Full Scale Value	
	FLOW MIN WARNING	0	
	FLOW MIN ALARM	0	
	FLOW SIMULATE	OFF	
TB GASTEMP MENU	TEMPERATURE UNIT	°C	
	SENSOR MEASTYP	TB-TEMP = SV1	
	ZEROPOINT CORR GAS	0	
	ZEROPOINT COR HEAT	0	

Continuation next page

PROFIBUS MENU	Submenu level 1	Factory setting	Customer setting
AI GASTEMP MENU	TEMP PV_SCALE HIGH	400 °C	
	TEMP PV_SCALE LOW	-40 °C	
	OUT_SCALE AT 100%	400 °C	
	OUT_SCALE_AT 0%	-40 °C	
	TEMP FAILSAFE TYPE	FAIL SAFE OUT	
	FAIL SAFE VALUE	0	
	TEMP FILTER TIME	0.2 s	
	TEMP ALARM HYSTER	0	
	TEMP MAX ALARM	280 °C	
	TEMP MAX WARNING	275 °C	
	TEMP MIN WARNING	-20 °C	
	TEMP MIN ALARM	-20 °C	
	TEMP SIMULATE	OFF	
TOTAL MENU	TOTAL UNIT	Acc. to char. curve	
	SET TOTAL	TOTAL	
	MODE TOTAL	HOLD	
	FAIL TOTAL	RUN	

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