1. Compressor ==>>>> Master Controller

Table 1.1 : Alarms

** Modbus: Please see paragraph "Sigma Control 2 Modbus" at page 3

* Summary of SC2 messages

Avalability	
3	depends on use of the function at SC 2
2.x	depends on model type or options, see table 3
1	always

Sigma Control 2										SAM		Message		Avalability	Description / possible cause
JSON-RPC	Profibus/-net		Modbus**					DeviceNet		Send/Receive					
			Input		Holding										
BDSnd	S7 DBX	S5 DW	Protocol address	Input Register	Protocol address	Holding Register	Bit	Register	Bit	S5 DW	S7 DBX	ID	Text (SC2 Display, except *)		
xAM1	1.0	0	21	30022	277	40278	0	0	0	32	65.0	0001	Direction of rotation	1	The compressor drive motor is turning in the wrong direction.
xAM2	1.1	0	21	30022	277	40278	1	0	1	32	65.1	0002	Motor T ǂ	2.8	Compressor drive motor overheated. (PTC or PT100)
xAM3	1.2	0	21	30022	277	40278	2	0	2	32	65.2	0003	pRV ǂ	1	TÜV inspection: The activating pressure of the pressure relief valve on the oil separator tank has been exceeded.
xAM4	1.3	0	21	30022	277	40278	3	0	3	32	65.3	0004	EMERGENCY STOP	1	EMERGENCY STOP control device actuated.
xAM5	1.4	0	21	30022	277	40278	4	0	4	32	65.4	0005	Oil separator T ǂ	2.4	Maximum air temperature at the oil separator tank outlet is exceeded.
xAM6	1.5	0	21	30022	277	40278	5	0	5	32	65.5		free		
xAM7	1.6	0	21	30022	277	40278	6	0	6	32	65.6	0007	Mains monitor	2.O	Power supply fault (separate network monitoring module)
xAM8	1.7	0	21	30022	277	40278	7	0	7	32	65.7	0008	Diagnostics group alarm	1	A diagnostic alarm occurred.
xAM9	0.0	0	21	30022	277	40278	8	1	0	32	64.0	*	Sigma Control T ǂ	1	Permissible internal temperature for SIGMA CONTROL 2 MCS or IOM exceeded.
xAM10	0.1	0	21	30022	277	40278	9	1	1	32	64.1	0010	Blow-off protection ǂ	2.1	The activating pressure of the pressure relief valve on the oil separator tank has been exceeded.
xAM11	0.2	0	21	30022	277	40278	10	1	2	32	64.2	*	Oil-/air cooler fan Group alarm	2.9	Group alarm oil-/air cooler fan (overload, FC alarm)
xAM12	0.3	0	21	30022	277	40278	11	1	3	32	64.3	0012	Access doors	2.21	Door open / interlocked panel removed while the machine is running.
xAM13	0.4	0	21	30022	277	40278	12	1	4	32	64.4	0013	Compressor motor overload	1	Overload shut-down of the compressor drive motor.
xAM14	0.5	0	21	30022	277	40278	13	1	5	32	64.5	0016	Air cooler - Fan Overcurrent	2.11	Overload shut-down of the air cooler fan motor.
xAM15	0.6	0	21	30022	277	40278	14	1	6	32	64.6	0015	ADT ǂ	1	Maximum permissible airend discharge temperature (ADT) exceeded.
xAM16	0.7	0	21	30022	277	40278	15	1	7	32	64.7	0014 *	Oil cooler fan Group alarm	2.10	Group alarm oil cooler fan (overload, FC alarm)

1. Compressor ==>>>> Master Controller

Table 1.1 : Alarms

** Modbus: Please see paragraph "Sigma Control 2 Modbus" at page 3

* Summary of SC2 messages

Avalability	
3	depends on use of the function at SC 2
2.x	depends on model type or options, see table 3
1	always

Sigma Control 2										SAM		Message		Avalability	Description / possible cause
JSON-RPC	Profibus/-net		Modbus**					DeviceNet		Send/Receive					
			Input		Holding										
BDSnd	S7 DBX	S5 DW	Protocol address	Input Register	Protocol address	Holding Register	Bit	Register	Bit	S5 DW	S7 DBX	ID	Text (SC2 Display, except *)		
xAM17	3.0	1	22	30023	278	40279	0	2	0	33	67.0	0017	Safety shutdown ADT	1	Maximum permissible airend discharge temperature (ADT) exceeded - safety shutdown.
xAM18	3.1	1	22	30023	278	40279	1	2	1	33	67.1	0018	Interior fan Overcurrent	2.12	Overload shut-down of the interior fan motor.
xAM19	3.2	1	22	30023	278	40279	2	2	2	33	67.2	0019	Internal pressure pi ǂ	2.1	Internal pressure too low in idle mode.
xAM20	3.3	1	22	30023	278	40279	3	2	3	33	67.3		free		
xAM21	3.4	1	22	30023	278	40279	4	2	4	33	67.4	0021	Refrigeration dryer T ǂ	2.T	Refrigeration dryer: Compressed air temperature too low.
xAM22	3.5	1	22	30023	278	40279	5	2	5	33	67.5	0022	Oil separator dp ǂ	2.1	Oil separator cartridge clogged.
xAM23	3.6	1	22	30023	278	40279	6	2	6	33	67.6		free		
xAM24	3.7	1	22	30023	278	40279	7	2	7	33	67.7		free		
xAM25	2.0	1	22	30023	278	40279	8	3	0	33	66.0	*	First IOM - Group alarm	1	Fault in IOM itself
xAM26	2.1	1	22	30023	278	40279	9	3	1	33	66.1	*	Second IOM - Group alarm	2.6	Fault in IOM itself
xAM27	2.2	1	22	30023	278	40279	10	3	2	33	66.2		free		
xAM28	2.3	1	22	30023	278	40279	11	3	3	33	66.3		free		
xAM29	2.4	1	22	30023	278	40279	12	3	4	33	66.4	*	Third IOM - Group alarm	2.C	Fault in IOM itself
xAM30	2.5	1	22	30023	278	40279	13	3	5	33	66.5	*	Fourth IOM - Group alarm	2.C	Fault in IOM itself
xAM31	2.6	1	22	30023	278	40279	14	3	6	33	66.6		free		
xAM32	2.7	1	22	30023	278	40279	15	3	7	33	66.7		free		

1. Compressor ==>>>> Master Controller

Table 1.1 : Alarms

** Modbus: Please see paragraph "Sigma Control 2 Modbus" at page 3

* Summary of SC2 messages

Avalability	
3	depends on use of the function at SC 2
2.x	depends on model type or options, see table 3
1	always

Sigma Control 2										SAM		Message		Avalability	Description / possible cause
JSON-RPC	Profibus/-net		Modbus**					DeviceNet		Send/Receive					
			Input		Holding										
BDSnd	S7 DBX	S5 DW	Protocol address	Input Register	Protocol address	Holding Register	Bit	Register	Bit	S5 DW	S7 DBX	ID	Text (SC2 Display, except *)		
xAM33	5.0	2	23	30024	279	40280	0	4	0	34	69.0	0033	Oil pressure ↡	2.V	Vaccum: Oil pressure is too low
xAM34	5.1	2	23	30024	279	40280	1	4	1	34	69.1	*	Mains-/Delta-/Redundancy contactor on?	1	Mains contactor, delta contactor or redundancy contactor does not close.
xAM35	5.2	2	23	30024	279	40280	2	4	2	34	69.2	0035	Cabinet fan I ↡	2.13	Overload shut-down of the control cabinet fan motor.
xAM36	5.3	2	23	30024	279	40280	3	4	3	34	69.3	*	Fifth IOM - Group alarm	2.C	Fault in IOM itself
xAM37	5.4	2	23	30024	279	40280	4	4	4	34	69.4	*	Sixth IOM - Group alarm	2.C	Fault in IOM itself
xAM38	5.5	2	23	30024	279	40280	5	4	5	34	69.5	0038	PD temperature ↡	2.3	Pressure discharge temperature too low.
xAM39	5.6	2	23	30024	279	40280	6	4	6	34	69.6	0039	PD temperature ↡	2.3	Pressure discharge temperature too high.
xAM40	5.7	2	23	30024	279	40280	7	4	7	34	69.7	*	Mains-/Delta-/Redundancy contactor off?	1	Mains contactor, delta contactor or redundancy contactor does not open.
xAM41	4.0	2	23	30024	279	40280	8	5	0	34	68.0	0041	Mains voltage ↡	1	Second power failure.
xAM42	4.1	2	23	30024	279	40280	9	5	1	34	68.1	0042	Back pressure stop	1	Back pressure in the oil separator tank caused by defective venting. (stop = Motor off)
xAM43	4.2	2	23	30024	279	40280	10	5	2	34	68.2	0043	ADT rise dT/dt ↡	1	The rate of rise of the airend discharge temperature (ADT) is too fast.
xAM44	4.3	2	23	30024	279	40280	11	5	3	34	68.3	0044	No pressure buildup	2.1	The machine does not produce compressed air. The working pressure does not rise above 3.5 bar / 51 psi within the preset period.
xAM45	4.4	2	23	30024	279	40280	12	5	4	34	68.4		free		
xAM46	4.5	2	23	30024	279	40280	13	5	5	34	68.5	*	Compressor motor FC Group alarm	2.F	Fault in frequency converter for compressor motor
xAM47	4.6	2	23	30024	279	40280	14	5	6	34	68.6	*	USS bus communication error	2.F	RS485-FC: USS bus communication error
xAM48	4.7	2	23	30024	279	40280	15	5	7	34	68.7	*	High-voltage cell	2.C	Fault in the high voltage cell.

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Table 1.1 : Alarms

** Modbus: Please see paragraph "Sigma Control 2 Modbus" at page 3

* Summary of SC2 messages

Avalability	
3	depends on use of the function at SC 2
2.x	depends on model type or options, see table 3
1	always

Sigma Control 2										SAM		Message		Avalability	Description / possible cause
JSON-RPC	Profibus/-net		Modbus**					DeviceNet		Send/Receive					
			Input		Holding										
BDSnd	S7 DBX	S5 DW	Protocol address	Input Register	Protocol address	Holding Register	Bit	Register	Bit	S5 DW	S7 DBX	ID	Text (SC2 Display, except *)		
xAM49	7.0	3	24	30025	280	40281	0	6	0	35	71.0		free		
xAM50	7.1	3	24	30025	280	40281	1	6	1	35	71.1	0050	Customer-provided power element	2.C	Fault in customer-provided power element
xAM51	7.2	3	24	30025	280	40281	2	6	2	35	71.2	0051	Aggregat A	2.14	HSD: Aggregate A alarm, blocking aggregate B.
xAM52	7.3	3	24	30025	280	40281	3	6	3	35	71.3	0052	Aggregat B	2.14	HSD: Aggregate B alarm, blocking aggregate A.
xAM53	7.4	3	24	30025	280	40281	4	6	4	35	71.4		free		
xAM54	7.5	3	24	30025	280	40281	5	6	5	35	71.5		free		
xAM55	7.6	3	24	30025	280	40281	6	6	6	35	71.6		free		
xAM56	7.7	3	24	30025	280	40281	7	6	7	35	71.7	0056	RD condensate drain	2.T	Refrigeration dryer: The condensate drain is defective.
xAM57	6.0	3	24	30025	280	40281	8	7	0	35	70.0		free		
xAM58	6.1	3	24	30025	280	40281	9	7	1	35	70.1	0058	Condensate drain	2.15	The condensate drain is defective.
xAM59	6.2	3	24	30025	280	40281	10	7	2	35	70.2	0059	Back pressure run	1	Drive belt or coupling broken. (run = motor running)
xAM60	6.3	3	24	30025	280	40281	11	7	3	35	70.3	0060	Softstart	2.C	Fault in the softstarter
xAM61	6.4	3	24	30025	280	40281	12	7	4	35	70.4	0061	Oil separator dT/dt ǂ	2.4	The rate of rise of the airend discharge temperature is too fast.
xAM62	6.5	3	24	30025	280	40281	13	7	5	35	70.5	0062	Refrigeration dryer p ǂ	2.T	Refrigeration dryer: Pressure too high in the refrigerant circuit. Safety pressure switch tripped.
xAM63	6.6	3	24	30025	280	40281	14	7	6	35	70.6	0063	Refrigeration dryer p ǂ	2.16	Refrigeration dryer: Refrigerant lost; pressure in the refrigerant circuit too low. Inlet pressure switched tripped.
xAM64	6.7	3	24	30025	280	40281	15	7	7	35	70.7	0064	Refrigeration dryer com-pressor motor temperature ǂ	2.17	Refrigeration dryer: Motor temperature too high. Temperature switch tripped.

1. Compressor ==>>>> Master Controller

Table 1.1 : Alarms

** Modbus: Please see paragraph "Sigma Control 2 Modbus" at page 3

* Summary of SC2 messages

Avalability	
3	depends on use of the function at SC 2
2.x	depends on model type or options, see table 3
1	always

Sigma Control 2										SAM		Message		Avalability	Description / possible cause
JSON-RPC	Profibus/-net		Modbus**					DeviceNet		Send/Receive					
			Input		Holding										
BDSnd	S7 DBX	S5 DW	Protocol address	Input Register	Protocol address	Holding Register	Bit	Register	Bit	S5 DW	S7 DBX	ID	Text (SC2 Display, except *)		
xAM65	9.0	4	25	30026	281	40282	0	8	0	36	73.0		free		
xAM66	9.1	4	25	30026	281	40282	1	8	1	36	73.1		free		
xAM67	9.2	4	25	30026	281	40282	2	8	2	36	73.2	0067	SC2 <=> SC2 communication error	2.14	HSD without SFC: Ethernet communication with corresponding aggregat is interrupted.
xAM68	9.3	4	25	30026	281	40282	3	8	3	36	73.3		free		
xAM69	9.4	4	25	30026	281	40282	4	8	4	36	73.4		free		
xAM70	9.5	4	25	30026	281	40282	5	8	5	36	73.5		free		
xAM71	9.6	4	25	30026	281	40282	6	8	6	36	73.6		free		
xAM72	9.7	4	25	30026	281	40282	7	8	7	36	73.7		free		
xAM73	8.0	4	25	30026	281	40282	8	9	0	36	72.0	0073	External message 1	3	External binary message 1
xAM74	8.1	4	25	30026	281	40282	9	9	1	36	72.1	0074	External message 2	3	External binary message 2
xAM75	8.2	4	25	30026	281	40282	10	9	2	36	72.2	0075	External message 3	3	External binary message 3
xAM76	8.3	4	25	30026	281	40282	11	9	3	36	72.3	0076	External message 4	3	External binary message 4
xAM77	8.4	4	25	30026	281	40282	12	9	4	36	72.4	0077	External message 5	3	External binary message 5
xAM78	8.5	4	25	30026	281	40282	13	9	5	36	72.5	0078	External message 6	3	External binary message 6
xAM79	8.6	4	25	30026	281	40282	14	9	6	36	72.6	0095	p-Switch pN	3	Adjustable pN-pressure switch
xAM80	8.7	4	25	30026	281	40282	15	9	7	36	72.7	0094	T-Switch ADT	3	Adjustable airend discharge temperature switch

1. Compressor ==>>>> Master Controller

Table 1.2 : Warning Messages

** Modbus: Please see paragraph "Sigma Control 2 Modbus" at page 3

* Summary of SC2 messages

Avalability	
3	depends on use of the function at SC 2
2.x	depends on model type or options, see table 3
1	always

Sigma Control 2										SAM		Message		Avalability	Description / possible cause
JSON-RPC	Profibus/-net		Modbus**					DeviceNet		Send/Receive					
			Input		Holding										
BDSnd	S7 DBX	S5 DW	Protocol address	Input Register	Protocol address	Holding Register	Bit	Register	Bit	S5 DW	S7 DBX	ID	Text (SC2 Display, except *)		
xWM1	11.0	5	26	30027	282	40283	0	10	0	37	75.0		free		
xWM2	11.1	5	26	30027	282	40283	1	10	1	37	75.1	0002	Motor T↑	2.8	Drive motor overheating. (PTC oder PT100)
xWM3	11.2	5	26	30027	282	40283	2	10	2	37	75.2		free		
xWM4	11.3	5	26	30027	282	40283	3	10	3	37	75.3	0004	Oil separator dp↑	2.1	The pressure drop across the oil separator cartridge has risen. Oil separator cartridge clogged.
xWM5	11.4	5	26	30027	282	40283	4	10	4	37	75.4		free		
xWM6	11.5	5	26	30027	282	40283	5	10	5	37	75.5		free		
xWM7	11.6	5	26	30027	282	40283	6	10	6	37	75.6		free		
xWM8	11.7	5	26	30027	282	40283	7	10	7	37	75.7	0008	ADT ↑	1	Maximum airend discharge temperature will soon be reached.
xWM9	10.0	5	26	30027	282	40283	8	11	0	37	74.0		free		
xWM10	10.1	5	26	30027	282	40283	9	11	1	37	74.1		free		
xWM11	10.2	5	26	30027	282	40283	10	11	2	37	74.2	0011	Oilfilter dp↑	2.18	The pressure differential of the oil filter has risen. Oil filter clogged.
xWM12	10.3	5	26	30027	282	40283	11	11	3	37	74.3		free		
xWM13	10.4	5	26	30027	282	40283	12	11	4	37	74.4	0013	Air filter dp↑	2.19	Air filter clogged.
xWM14	10.5	5	26	30027	282	40283	13	11	5	37	74.5		free		
xWM15	10.6	5	26	30027	282	40283	14	11	6	37	74.6	0015	Bus alarm	1	The bus link from the Com-Modul interface is interrupted.
xWM16	10.7	5	26	30027	282	40283	15	11	7	37	74.7		free		

1. Compressor ==>>>> Master Controller

Table 1.2 : Warning Messages

** Modbus: Please see paragraph "Sigma Control 2 Modbus" at page 3

* Summary of SC2 messages

Availability	
3	depends on use of the function at SC 2
2.x	depends on model type or options, see table 3
1	always

Sigma Control 2										SAM		Message		Availability	Description / possible cause
JSON-RPC	Profibus/-net		Modbus**					DeviceNet		Send/Receive					
			Input		Holding										
BDSnd	S7 DBX	S5 DW	Protocol address	Input Register	Protocol address	Holding Register	Bit	Register	Bit	S5 DW	S7 DBX	ID	Text (SC2 Display, except *)		
xWM17	13.0	6	27	30028	283	40284	0	12	0	38	77.0		free		
xWM18	13.1	6	27	30028	283	40284	1	12	1	38	77.1		free		
xWM19	13.2	6	27	30028	283	40284	2	12	2	38	77.2		free		
xWM20	13.3	6	27	30028	283	40284	3	12	3	38	77.3		free		
xWM21	13.4	6	27	30028	283	40284	4	12	4	38	77.4		free		
xWM22	13.5	6	27	30028	283	40284	5	12	5	38	77.5		free		
xWM23	13.6	6	27	30028	283	40284	6	12	6	38	77.6		free		
xWM24	13.7	6	27	30028	283	40284	7	12	7	38	77.7	0024	Mains contactor operations ‡	1	Maximum switching operations of mains contactor exceeded.
xWM25	12.0	6	27	30028	283	40284	8	13	0	38	76.0	0025	Oil separator h ‡	1	Oil separator cartridge: Maintenance interval has elapsed.
xWM26	12.1	6	27	30028	283	40284	9	13	1	38	76.1	0026	Oil change h ‡	1	Cooling oil: Maintenance interval has elapsed.
xWM27	12.2	6	27	30028	283	40284	10	13	2	38	76.2	0027	Oil filter h ‡	1	Oil filter: Maintenance interval has elapsed.
xWM28	12.3	6	27	30028	283	40284	11	13	3	38	76.3	0028	Air filter h ‡	1	Air filter: Maintenance interval has elapsed.
xWM29	12.4	6	27	30028	283	40284	12	13	4	38	76.4	0029	Valve inspection h ‡	1	Valves: Maintenance interval has elapsed.
xWM30	12.5	6	27	30028	283	40284	13	13	5	38	76.5	0030	Belt/coupling inspection h ‡	1	Belt tension/coupling: Maintenance interval has elapsed.
xWM31	12.6	6	27	30028	283	40284	14	13	6	38	76.6	0031	Motor bearings h ‡	1	Motor bearing of compressor motor: Maintenance interval has elapsed.
xWM32	12.7	6	27	30028	283	40284	15	13	7	38	76.7	0032	Electrical equipment h ‡	1	Electric components and installation: Maintenance interval has elapsed.

1. Compressor ==>>>> Master Controller

Table 1.2 : Warning Messages

** Modbus: Please see paragraph "Sigma Control 2 Modbus" at page 3

* Summary of SC2 messages

Availability	
3	depends on use of the function at SC 2
2.x	depends on model type or options, see table 3
1	always

Sigma Control 2										SAM		Message		Availability	Description / possible cause
JSON-RPC	Profibus/-net		Modbus**					DeviceNet		Send/Receive					
			Input		Holding										
BDSnd	S7 DBX	S5 DW	Protocol address	Input Register	Protocol address	Holding Register	Bit	Register	Bit	S5 DW	S7 DBX	ID	Text (SC2 Display, except *)		
xWM33	15.0	7	28	30029	284	40285	0	14	0	39	79.0	0033	Fan bearings h ⇞	2.20	Motor bearing of fan motors: Maintenance interval has elapsed.
xWM34	15.1	7	28	30029	284	40285	1	14	1	39	79.1	0034	PD temperature ↓	2.3	Pressure discharge temperature low.
xWM35	15.2	7	28	30029	284	40285	2	14	2	39	79.2	0035	PD temperature ↑	2.3	Pressure discharge temperature high.
xWM36	15.3	7	28	30029	284	40285	3	14	3	39	79.3	0036	Motor starts /h ⇞	1	The permissible number of motor starts was exceeded in the last 60 minutes.
xWM37	15.4	7	28	30029	284	40285	4	14	4	39	79.4	0037	Motor starts /d ⇞	1	The permissible number of motor starts was exceeded in the last 24 hours.
xWM38	15.5	7	28	30029	284	40285	5	14	5	39	79.5	0038	Blow-off protection ↑	2.1	The pressure relief valve's activating pressure will soon be reached.
xWM39	15.6	7	28	30029	284	40285	6	14	6	39	79.6		free		
xWM40	15.7	7	28	30029	284	40285	7	14	7	39	79.7		free		
xWM41	14.0	7	28	30029	284	40285	8	15	0	39	78.0	0041	Mains voltage ↓	1	First power failure: The machine is automatically restarted.
xWM42	14.1	7	28	30029	284	40285	9	15	1	39	78.1		free		
xWM43	14.2	7	28	30029	284	40285	10	15	2	39	78.2	0043	External load signal?	3	Ambiguous external load signal: Increased cut-out pressure exceeded. The external load control has not switched to idle (off load).
xWM44	14.3	7	28	30029	284	40285	11	15	3	39	78.3	0044	Oil T↓	2.C	Cooling oil temperature too low.
xWM45	14.4	7	28	30029	284	40285	12	15	4	39	78.4	0045	DO test active	3	The DO test is active
xWM46	14.5	7	28	30029	284	40285	13	15	5	39	78.5	0046	System pressure ↓	3	Network pressure has fallen below the set 'low' value. Air consumption too high.
xWM47	14.6	7	28	30029	284	40285	14	15	6	39	78.6	0047	No pressure buildup	2.1	The compressor cannot build-up to working pressure.
xWM48	14.7	7	28	30029	284	40285	15	15	7	39	78.7	0048	Bearing lube h ⇞	1	Re-grease the motor bearings. Maintenance interval has elapsed.

1. Compressor ==>>>> Master Controller

Table 1.2 : Warning Messages

** Modbus: Please see paragraph "Sigma Control 2 Modbus" at page 3

* Summary of SC2 messages

Avalability	
3	depends on use of the function at SC 2
2.x	depends on model type or options, see table 3
1	always

Sigma Control 2										SAM		Message		Avalability	Description / possible cause
JSON-RPC	Profibus/-net		Modbus**					DeviceNet		Send/Receive					
			Input		Holding										
BDSnd	S7 DBX	S5 DW	Protocol address	Input Register	Protocol address	Holding Register	Bit	Register	Bit	S5 DW	S7 DBX	ID	Text (SC2 Display, except *)		
xWM49	17.0	8	29	30030	285	40286	0	16	0	40	81.0	0049	Annual maintenance	1	Appears one year after last maintenance.
xWM50	17.1	8	29	30030	285	40286	1	16	1	40	81.1		free		
xWM51	17.2	8	29	30030	285	40286	2	16	2	40	81.2	0051	Double aggregate emergency operation!	2.14	HSD: Aggregate is in single run mode.
xWM52	17.3	8	29	30030	285	40286	3	16	3	40	81.3		free		
xWM53	17.4	8	29	30030	285	40286	4	16	4	40	81.4		free		
xWM54	17.5	8	29	30030	285	40286	5	16	5	40	81.5		free		
xWM55	17.6	8	29	30030	285	40286	6	16	6	40	81.6		free		
xWM56	17.7	8	29	30030	285	40286	7	16	7	40	81.7		free		
xWM57	16.0	8	29	30030	285	40286	8	17	0	40	80.0		free		
xWM58	16.1	8	29	30030	285	40286	9	17	1	40	80.1	0058	SC2 <=> SC2 Communication error	2.14	SC2 to SC2 communication is interrupted.
xWM59	16.2	8	29	30030	285	40286	10	17	2	40	80.2	0059	Start T↓↓	1	The airend temperature is too low (<−10°C / 14°F) for the machine to be operated.
xWM60	16.3	8	29	30030	285	40286	11	17	3	40	80.3	0060	Start T↓	1	The airend temperature is too low (<+2°C / 36°F).
xWM61	16.4	8	29	30030	285	40286	12	17	4	40	80.4	0061	Compressor T ↓	1	Compressor temperature (ADT or OST) did not reach the minimum required value during operation.
xWM62	16.5	8	29	30030	285	40286	13	17	5	40	80.5	*	Compressor motor FC Service mode active	2.F	Service mode of frequency converter is active. FC is connected constantly to mains via mains contactor Q1.
xWM63	16.6	8	29	30030	285	40286	14	17	6	40	80.6	0063	Compressor motor FC test shut-off required	2.F	Test of "Safe Torque off" shut down at frequency converter.
xWM64	16.7	8	29	30030	285	40286	15	17	7	40	80.7	0212 0232	Compressor motor FC error AI	2.F	Fault at AI0 (Sinamics) or AI1 (Masterdrive) of the frequency converter

1. Compressor ==>>>> Master Controller

Table 1.2 : Warning Messages

** Modbus: Please see paragraph "Sigma Control 2 Modbus" at page 3

* Summary of SC2 messages

Avalability	
3	depends on use of the function at SC 2
2.x	depends on model type or options, see table 3
1	always

Sigma Control 2										SAM		Message		Avalability	Description / possible cause
JSON-RPC	Profibus/-net		Modbus**					DeviceNet		Send/Receive					
			Input		Holding										
BDSnd	S7 DBX	S5 DW	Protocol address	Input Register	Protocol address	Holding Register	Bit	Register	Bit	S5 DW	S7 DBX	ID	Text (SC2 Display, except *)		
xWM65	19.0	9	30	30031	286	40287	0	18	0	41	83.0		free		
xWM66	19.1	9	30	30031	286	40287	1	18	1	41	83.1		free		
xWM67	19.2	9	30	30031	286	40287	2	18	2	41	83.2	0067	System pressure ↑	2.V	Vacuum: Network pressure has risen above the set 'high' value. Air suction too low.
xWM68	19.3	9	30	30031	286	40287	3	18	3	41	83.3	0068	Condensate drain	2.15	The condensate drain is defective.
xWM69	19.4	9	30	30031	286	40287	4	18	4	41	83.4	0069	Error operation without RD → Call service!	2.T	Error operation without refrigeration dryer is activ. The compressor is running without dryer for a certain time.
xWM70	19.5	9	30	30031	286	40287	5	18	5	41	83.5	0070	Refrigeration dryer T↑	2.T	Refrigeration dryer: Compressed air temperature too high.
xWM71	19.6	9	30	30031	286	40287	6	18	6	41	83.6	0071	Oil level ↓	2.C	Cooling oil level too low.
xWM72	19.7	9	30	30031	286	40287	7	18	7	41	83.7	0072	RD condensate drain	2.T	Refrigeration dryer: The condensate drain is defective.
xWM73	18.0	9	30	30031	286	40287	8	19	0	41	82.0	0073	External message 1	3	External binary message 1
xWM74	18.1	9	30	30031	286	40287	9	19	1	41	82.1	0074	External message 2	3	External binary message 2
xWM75	18.2	9	30	30031	286	40287	10	19	2	41	82.2	0075	External message 3	3	External binary message 3
xWM76	18.3	9	30	30031	286	40287	11	19	3	41	82.3	0076	External message 4	3	External binary message 4
xWM77	18.4	9	30	30031	286	40287	12	19	4	41	82.4	0077	External message 5	3	External binary message 5
xWM78	18.5	9	30	30031	286	40287	13	19	5	41	82.5	0078	External message 6	3	External binary message 6
xWM79	18.6	9	30	30031	286	40287	14	19	6	41	82.6	0095	p-Switch pN	3	Adjustable pN-pressure switch
xWM80	18.7	9	30	30031	286	40287	15	19	7	41	82.7	0094	T-Switch ADT	3	Adjustable airend discharge temperature switch

1. Compressor ==>>>> Master Controller

Table 1.3 : Operational messages

** Modbus: Please see paragraph "Sigma Control 2 Modbus" at page 3

* Summary of SC2 messages

Availability	
3	depends on use of the function at SC 2
2.x	depends on model type or options, see table 3
1	always

Sigma Control 2										SAM		Message		Availability	Description / possible cause
JSON-RPC	Profibus/-net		Modbus**					DeviceNet		Send/Receive					
			Input		Holding										
BDSnd	S7	S5	Protocol	Input	Protocol	Holding				S5	S7				
	DBX	DW	address	Register	address	Register	Bit	Register	Bit	DW	DBX	ID	Text (SC2 Display, except *)		
xOM1	21.0	10	31	30032	287	40288	0	20	0	42	85.0		free		
xOM2	21.1	10	31	30032	287	40288	1	20	1	42	85.1		free		
xOM3	21.2	10	31	30032	287	40288	2	20	2	42	85.2		free		
xOM4	21.3	10	31	30032	287	40288	3	20	3	42	85.3		free		
xOM5	21.4	10	31	30032	287	40288	4	20	4	42	85.4		free		
xOM6	21.5	10	31	30032	287	40288	5	20	5	42	85.5		free		
xOM7	21.6	10	31	30032	287	40288	6	20	6	42	85.6		free		
xOM8	21.7	10	31	30032	287	40288	7	20	7	42	85.7		free		
xOM9	20.0	10	31	30032	287	40288	8	21	0	42	84.0		free		
xOM10	20.1	10	31	30032	287	40288	9	21	1	42	84.1		free		
xOM11	20.2	10	31	30032	287	40288	10	21	2	42	84.2	0011	Cold start release	3	Cold start is enabled
xOM12	20.3	10	31	30032	287	40288	11	21	3	42	84.3		free		
xOM13	20.4	10	31	30032	287	40288	12	21	4	42	84.4		free		
xOM14	20.5	10	31	30032	287	40288	13	21	5	42	84.5		free		
xOM15	20.6	10	31	30032	287	40288	14	21	6	42	84.6		free		
xOM16	20.7	10	31	30032	287	40288	15	21	7	42	84.7		free		

1. Compressor ==>>>> Master Controller

Table 1.3 : Operational messages

** Modbus: Please see paragraph "Sigma Control 2 Modbus" at page 3

* Summary of SC2 messages

Avalability	
3	depends on use of the function at SC 2
2.x	depends on model type or options, see table 3
1	always

Sigma Control 2										SAM		Message		Avalability	Description / possible cause
JSON-RPC	Profibus/-net		Modbus**					DeviceNet		Send/Receive					
			Input		Holding										
BDSnd	S7 DBX	S5 DW	Protocol address	Input Register	Protocol address	Holding Register	Bit	Register	Bit	S5 DW	S7 DBX	ID	Text (SC2 Display, except *)		
xOM17	23.0	11	32	30033	288	40289	0	22	0	43	87.0	0073	External message 1	3	External binary message 1
xOM18	23.1	11	32	30033	288	40289	1	22	1	43	87.1	0074	External message 2	3	External binary message 2
xOM19	23.2	11	32	30033	288	40289	2	22	2	43	87.2	0075	External message 3	3	External binary message 3
xOM20	23.3	11	32	30033	288	40289	3	22	3	43	87.3	0076	External message 4	3	External binary message 4
xOM21	23.4	11	32	30033	288	40289	4	22	4	43	87.4	0077	External message 5	3	External binary message 5
xOM22	23.5	11	32	30033	288	40289	5	22	5	43	87.5	0078	External message 6	3	External binary message 6
xOM23	23.6	11	32	30033	288	40289	6	22	6	43	87.6	0095	p-Switch pN	3	Adjustable pN-pressure switch
xOM24	23.7	11	32	30033	288	40289	7	22	7	43	87.7	0094	T-Switch ADT	3	Adjustable airend discharge temperature switch
xOM25	22.0	11	32	30033	288	40289	8	23	0	43	86.0		free		
xOM26	22.1	11	32	30033	288	40289	9	23	1	43	86.1		free		
xOM27	22.2	11	32	30033	288	40289	10	23	2	43	86.2	0027	Power OFF → ON	1	It is necessary to switch power supply of SC2 off and on.
xOM28	22.3	11	32	30033	288	40289	11	23	3	43	86.3	0028	Dynamic motor T↑	2.5	Control mode DYNAMIC: The temperature of the compressor motor is too high.
xOM29	22.4	11	32	30033	288	40289	12	23	4	43	86.4		free		
xOM30	22.5	11	32	30033	288	40289	13	23	5	43	86.5	0030	Voltage restored	1	SC2 has been feed with supply voltage.
xOM31	22.6	11	32	30033	288	40289	14	23	6	43	86.6		free		
xOM32	22.7	11	32	30033	288	40289	15	23	7	43	86.7		free		

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Table 1.3 : Operational messages

** Modbus: Please see paragraph "Sigma Control 2 Modbus" at page 3

* Summary of SC2 messages

Avalability	
3	depends on use of the function at SC 2
2.x	depends on model type or options, see table 3
1	always

Sigma Control 2										SAM		Message		Avalability	Description / possible cause
JSON-RPC	Profibus/-net		Modbus**					DeviceNet		Send/Receive					
			Input		Holding										
BDSnd	S7 DBX	S5 DW	Protocol address	Input Register	Protocol address	Holding Register	Bit	Register	Bit	S5 DW	S7 DBX	ID	Text (SC2 Display, except *)		
xOM33	25.0	12	33	30034	289	40290	0	24	0	44	89.0	0033	Machine report	3	Life sign has been sent.
xOM34	25.1	12	33	30034	289	40290	1	24	1	44	89.1		free		
xOM35	25.2	12	33	30034	289	40290	2	24	2	44	89.2		free		
xOM36	25.3	12	33	30034	289	40290	3	24	3	44	89.3		free		
xOM37	25.4	12	33	30034	289	40290	4	24	4	44	89.4		free		
xOM38	25.5	12	33	30034	289	40290	5	24	5	44	89.5		free		
xOM39	25.6	12	33	30034	289	40290	6	24	6	44	89.6		free		
xOM40	25.7	12	33	30034	289	40290	7	24	7	44	89.7	*	IOSlot Undervoltage error	1	Undervoltage error at at least one IOM.

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Table 1.4 : Binary Signals

** Modbus: Please see paragraph "Sigma Control 2 Modbus" at page 3

Sigma Control 2										SAM				
JSON-RPC	Profibus/-net		Modbus**					DeviceNet		Send/Receive		**Description**	Availability	**Signal**	
			Input		Holding										
BDSnd	**S7**	**S5**	Protocol	Input	Protocol	Holding				**S5**	**S7**				
	DBX	DW	address	Register	address	Register	Bit	Register	Bit	DW	DBX			**"1"**	**"0"**
xBS0	27.0	13	34	30035	290	40291	0	26	0	45	91.0	Controller on (LED at key "I" on) + Remote on + Bus (Receive)	1	yes	no
xBS1	27.1	13	34	30035	290	40291	1	26	1	45	91.1	Motor running	1	yes	no
xBS2	27.2	13	34	30035	290	40291	2	26	2	45	91.2	Load run	1	yes	no
xBS3	27.3	13	34	30035	290	40291	3	26	3	45	91.3	Idle	1	yes	no
xBS4	27.4	13	34	30035	290	40291	4	26	4	45	91.4	Local mode (LED at key "Remote" off)	1	yes	no
xBS5	27.5	13	34	30035	290	40291	5	26	5	45	91.5	Controller on (LED at key "I" on)	1	yes	no
xBS6	27.6	13	34	30035	290	40291	6	26	6	45	91.6	Group alarm	1	yes	no
xBS7	27.7	13	34	30035	290	40291	7	26	7	45	91.7	Group warning	1	yes	no
xBS8	26.0	13	34	30035	290	40291	8	27	0	45	90.0	Compressor ready for load	1	yes	no
xBS9	26.1	13	34	30035	290	40291	9	27	1	45	90.1	Compressor ON (Motor is running or ready for operation)	1	yes	no
xBS10	26.2	13	34	30035	290	40291	10	27	2	45	90.2				
xBS11	26.3	13	34	30035	290	40291	11	27	3	45	90.3				
xBS12	26.4	13	34	30035	290	40291	12	27	4	45	90.4				
xBS13	26.5	13	34	30035	290	40291	13	27	5	45	90.5				
xBS14	26.6	13	34	30035	290	40291	14	27	6	45	90.6				
xBS15	26.7	13	34	30035	290	40291	15	27	7	45	90.7				

3	depends on use of the function
2.x	see table 3
1	always

1. Compressor ==>>>> Master Controller

Table 1.4 : Binary Signals

** Modbus: Please see paragraph "Sigma Control 2 Modbus" at page 3

Sigma Control 2										SAM				Signal	
JSON-RPC	Profibus/-net		Modbus**					DeviceNet		Send/Receive		Description	Availability		
			Input		Holding										
BDSnd	S7 DBX	S5 DW	Protocol address	Input Register	Protocol address	Holding Register	Bit	Register	Bit	S5 DW	S7 DBX			"1"	"0"
xBS16	29.0	14	35	30036	291	40292	0	28	0	46	93.0	Mode *compressor ON from "I" key only* is active	3	yes	no
xBS17	29.1	14	35	30036	291	40292	1	28	1	46	93.1	Mode *compressor ON from "I" key and clock* is active	3	yes	no
xBS18	29.2	14	35	30036	291	40292	2	28	2	46	93.2				
xBS19	29.3	14	35	30036	291	40292	3	28	3	46	93.3				
xBS20	29.4	14	35	30036	291	40292	4	28	4	46	93.4	Mode *compressor ON from "I" key and external contact* is active	3	yes	no
xBS21	29.5	14	35	30036	291	40292	5	28	5	46	93.5	Mode *compressor ON from "I" key and clock or external contact* is active	3	yes	no
xBS22	29.6	14	35	30036	291	40292	6	28	6	46	93.6	Mode *compressor ON from "I" key and bus master* is active	3	yes	no
xBS23	29.7	14	35	30036	291	40292	7	28	7	46	93.7	Mode compressor ON (xBS16..xBS22) set from	3	bus master	local
xBS24	28.0	14	35	30036	291	40292	8	29	0	46	92.0	DUAL control mode is active	3	yes	no
xBS25	28.1	14	35	30036	291	40292	9	29	1	46	92.1	QUADRO control mode is active	3	yes	no
xBS26	28.2	14	35	30036	291	40292	10	29	2	46	92.2	VARIO control mode is active	3	yes	no
xBS27	28.3	14	35	30036	291	40292	11	29	3	46	92.3	DYNAMIC control mode is active	2.5	yes	no
xBS28	28.4	14	35	30036	291	40292	12	29	4	46	92.4	Continuous control mode is active	3	yes	no
xBS29	28.5	14	35	30036	291	40292	13	29	5	46	92.5				
xBS30	28.6	14	35	30036	291	40292	14	29	6	46	92.6				
xBS31	28.7	14	35	30036	291	40292	15	29	7	46	92.7	Control mode (xBS24 - xBS28) set from	3	bus master	local

3	depends on use of the function
2.x	see table 3
1	always

1. Compressor ==>>>> Master Controller

Table 1.4 : Binary Signals

** Modbus: Please see paragraph "Sigma Control 2 Modbus" at page 3

Sigma Control 2										SAM				
JSON-RPC	Profibus/-net		Modbus**					DeviceNet		Send/Receive		Description	Availability	Signal
			Input		Holding									
BDSnd	S7 DBX	S5 DW	Protocol address	Input Register	Protocol address	Holding Register	Bit	Register	Bit	S5 DW	S7 DBX			"1" / "0"
xBS32	31.0	15	36	30037	292	40293	0	30	0	47	95.0			
xBS33	31.1	15	36	30037	292	40293	1	30	1	47	95.1			
xBS34	31.2	15	36	30037	292	40293	2	30	2	47	95.2			
xBS35	31.3	15	36	30037	292	40293	3	30	3	47	95.3			
xBS36	31.4	15	36	30037	292	40293	4	30	4	47	95.4	Mode *load-idle signal from external contact* is active	3	yes / no
xBS37	31.5	15	36	30037	292	40293	5	30	5	47	95.5			
xBS38	31.6	15	36	30037	292	40293	6	30	6	47	95.6	Mode *load-idle signal from bus master* is active	3	yes / no
xBS39	31.7	15	36	30037	292	40293	7	30	7	47	95.7	Mode load-idle signal (xBS32..xBS47) set from	3	bus master / local
xBS40	30.0	15	36	30037	292	40293	8	31	0	47	94.0	Mode *load-idle signal from pressure regualtor, pA permanent* is active	3	yes / no
xBS41	30.1	15	36	30037	292	40293	9	31	1	47	94.1	Mode *load-idle signal from pressure regualtor, pB permanent* is active	3	yes / no
xBS42	30.2	15	36	30037	292	40293	10	31	2	47	94.2	Mode *load-idle signal from pressure regualtor, pA/pB change via clock* is active	3	yes / no
xBS43	30.3	15	36	30037	292	40293	11	31	3	47	94.3	Mode *load-idle signal from pressure regualtor, pA/pB change via timer* is active	3	yes / no
xBS44	30.4	15	36	30037	292	40293	12	31	4	47	94.4			
xBS45	30.5	15	36	30037	292	40293	13	31	5	47	94.5	Mode *load-idle signal from pressure regualtor, pA/pB change via external contact* is active	3	yes / no
xBS46	30.6	15	36	30037	292	40293	14	31	6	47	94.6	Mode *load-idle signal from pressure regualtor, pA/pB change via SC2 master (Ethernet)* is active	3	yes / no
xBS47	30.7	15	36	30037	292	40293	15	31	7	47	94.7			

Availability	
3	depends on use of the function
2.x	see table 3
1	always

1. Compressor ==>>>> Master Controller

Table 1.4 : Binary Signals

** Modbus: Please see paragraph "Sigma Control 2 Modbus" at page 3

Sigma Control 2										SAM				
JSON-RPC	Profibus/-net		Modbus**					DeviceNet		Send/Receive		Description	Availability	Signal
			Input		Holding									
BDSnd	S7 DBX	S5 DW	Protocol address	Input Register	Protocol address	Holding Register	Bit	Register	Bit	S5 DW	S7 DBX			"1" / "0"
xBS48	33.0	16	37	30038	293	40294	0	32	0	48	97.0			
xBS49	33.1	16	37	30038	293	40294	1	32	1	48	97.1			
xBS50	33.2	16	37	30038	293	40294	2	32	2	48	97.2			
xBS51	33.3	16	37	30038	293	40294	3	32	3	48	97.3	Automatic restart after power on	1	activated / deactivated
xBS52	33.4	16	37	30038	293	40294	4	32	4	48	97.4			
xBS53	33.5	16	37	30038	293	40294	5	32	5	48	97.5			
xBS54	33.6	16	37	30038	293	40294	6	32	6	48	97.6			
xBS55	33.7	16	37	30038	293	40294	7	32	7	48	97.7	Message acknowledgement by bus master	1	activated / deactivated
xBS56	32.0	16	37	30038	293	40294	8	33	0	48	96.0			
xBS57	32.1	16	37	30038	293	40294	9	33	1	48	96.1			
xBS58	32.2	16	37	30038	293	40294	10	33	2	48	96.2			
xBS59	32.3	16	37	30038	293	40294	11	33	3	48	96.3			
xBS60	32.4	16	37	30038	293	40294	12	33	4	48	96.4			
xBS61	32.5	16	37	30038	293	40294	13	33	5	48	96.5			
xBS62	32.6	16	37	30038	293	40294	14	33	6	48	96.6			
xBS63	32.7	16	37	30038	293	40294	15	33	7	48	96.7			

Availability:
3 depends on use of the function
2.x see table 3
1 always