ACP numbering system AUMATIC	
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Management System
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In general:

Deviations to the regulations in EWR00.01:
- This document is not released by AL-QW
- The document is not signed by SCK, SCM and WOF

Notes:
The wiring diagrams ACP and the ordering codes are valid for the version AUMATIC:
Types: AC 01.1, ACExC 01.1

ATTENTION: In the ACP numbering system different versions are listed under each digit (1 to 14). The possibility of combining different versions with one another has to be checked for every new requirement.

1. Column	2. Column	= Wiring diagram number = Ordering code	Explanations/ Remarks
		1. Digit: Housing	
1		AUMATIC AC 01.1	Standard
5		AUMATIC AC 01.1 on wall bracket	
7		AUMATIC AC 01.1 on wall bracket for explosion proof actuators	SA(R)Ex, SA(R)ExC, SGEx, SGExC
E		AUMATIC ACExC 01.1	ATEX
E		AUMATIC ACExC 01.1	FM
D		AUMATIC ACExC 01.1 on wall bracket	ATEX
D		AUMATIC ACExC 01.1 on wall bracket	FM
~~9~~		~~AUMATIC ACExC 01.1 (FM)~~	replaced by E
~~M~~		~~AUMATIC ACExC 01.1 (FM) on wall bracket~~	replace by D
		2. Digit: Type of connection (customer connection)	
1		Plug / socket	Standard
3		Terminals	
4		Special	E.g. 12-pin-plug for project Talcher
N		Fiber optic connection for line topology	Profibus/Modbus
P		Fiber optic connection for ring topology	Only Profibus
S		Fiber optic connection for star topology	Profibus/Modbus
U		Plug / socket with overvoltage protection for BUS interface	
C		Integral Circuit Breaker, plug / socket	
D		Integral Disconnect Switch, plug / socket	
F		Intergral Disconnect Switch, plug /socket with overvoltage protection for BUS interface	
E		Integral Lockout Stop, plug / socket	

1. Column	2. Column	= Wiring diagram number = Ordering code	Explanations/ Remarks
		3. Digit: Type of mains / motor / motor switchgear	
F		3 phases / 3-ph-AC motor / reversing contactors	380 – 690V max. 7.5kW (10hp) 208 – 240V max. 3.0kW (4hp)
K		3 phases / 3-ph-AC motor / reversing contactors	Max. 15kW
U		3 phases / 3-ph-AC motor / reversing contactors to control contactors in separate control box	Including thermal overload relay in control box
A		3 phases / 3-ph-AC motor / thyristors max. 1,5 kW	208V – 240V max. 0.37kW (0.5hp) 380V – 500V max. 1.5kW (2hp)
B		3 phases / 3-ph-AC motor / thyristors max. 1,5 kW with disconnecting contactor	ACExC only
G		3 phases / 3-ph-AC motor / thyristors max. 5 kW	208V – 240V max. 1.5kW (2hp) 380V – 500V max. 5.5kW (7.5hp)
C		1 phase / 1-ph-AC motor (type SK) / reversing contactors	Max. 0.37kW (0.5hp)
D		1 phase / 1-ph-AC motor (type SK) / thyristor unit (2 single blocks) Main power connected to L1 and N (1 fuse)	SK motors: max. 0.37kW (0.5hp)
1		1 phase / 1-ph-AC motor (type SK) / thyristor unit (2 single blocks) Main power connected to L1 and L2 (2 fuses)	SK motors: max. 0.37kW (0.5hp)
E		1 phase / 1-ph-AC motor (type SE) / reversing contactors	
H		1 phase / 1-ph-AC motor (type SE) / thyristors	
9		1 phases / LEESON motor (type CSIR) 115 V / reversing contactors	Max. 0.75kW (1hp)
7		1 phases / LEESON motor (type CSIR) 230 V/ reversing contactors	Max. 1.5kW (2hp)
8		1 phase / inductive motor (type ME, PSC), internal capacitor / reversing contactors	Max. 1.5kW (2hp)
4		1 phase/inductive motor (type ME, PSC), internal capacitor / thyristor unit (2 single blocks) Main power connected to L1 and N (1 fuse)	ME, PSC motors: max. 0.75kW (1hp)
3		1 phase / inductive motor (type ME, PSC), internal capacitor / thyristor unit (2 single blocks) Main power connected to L1 and L2 (2 fuses)	ME, PSC motors: max. 0.75kW (1hp)
5		1 phases / 3-ph-AC motor in Steinmetz wiring / reversing contactors	Only for actuators at exhibitions, capacitor separately
6		1 phases / 3-ph-AC motor in Steinmetz wiring / reversing contactors	Only for actuators at exhibitions, capacitor in AUMATIC
I		DC motor / reversing contactors	
J		DC motor (type SK) / reversing contactors	SG.1 only

1. Column	2. Column	= Wiring diagram number = Ordering code	Explanations/ Remarks
		4. Digit: Motor protection	
1		Thermoswitch	Standard
C		Thermistor with PTC tripping device	Reset via local controls
2		Thermoswitch with thermal overload relay	Reset not via local controls
3		No thermoswitch but thermal overload relay	
		5. Digit: Specials	
-		Without	Standard
A		Motor heater external supply	
B		Control unit heater external supply	
C		Control unit heater / AUMATIC heater / motor heater (option) for external supply by customer (230V AC)	
		6. Digit: Supply of AUMATIC / type of power supply unit / voltage output for customer	
1		Mains / transformer /no voltage output for customer use	
2		Mains / transformer / 24 V DC	Standard
3		Mains or external 24 V DC / transformer / 24 V DC	Internal/external supply of AUMATIC
4		Mains or external 24 V DC / transformer / 115V AC	Internal/external supply of AUMATIC
5		Mains / Transformer / 115 V AC	
6		External 24 V DC / no transformer / no voltage output for customer use	
7		External 24 V DC / no transformer / no voltage output for customer use / separate 24 V DC input to supply electronics	
8		Mains or external 24 V DC by hybrid bus cable (data and supply voltage in one cable) / transformer / 24 V DC	
		7. Digit: Logic board feedback from actuator	
P		potentiometer feedback or no feedback	Standard
R		RWG feedback	
M		MWG feedback	With absolute encoder in actuator
		8. Digit: Local controls	
0		Selector switch: LOCAL-OFF-REMOTE 4 push-buttons: OPEN-STOP-CLOSE-RESET 5 indication lights: CLOSE–TCLOSE–TH–TOPEN–OPEN Display	
1		Selector switch: LOCAL-OFF-REMOTE 4 push-buttons: OPEN-STOP-CLOSE-RESET 5 programmable indication lights Display	
V		No Selector switch 4 push-buttons: OPEN-STOP-CLOSE-RESET 5 indication lights: CLOSE–TCLOSE–TH–TOPEN–OPEN Display	

1. Column	2. Column	= Wiring diagram number = Ordering code	Explanations/ Remarks
		9. Digit: I/O interface: inputs	
-		Without or bus interface	
A		6 digital inputs 24 V DC 2 analog inputs 0/4 – 20 mA, 20 – 4/0mA	
B		6 digital inputs 115 V AC 2 analog inputs 0/4 – 20 mA, 20 – 4/0mA	
C		4 digital inputs 24 V DC	
1		No inputs	
		10. Digit: I/O interface: outputs	
-		Without or bus interface	
A		6 signal relays (NO contact with 1 common) including FAULT (NO/NC contact) 2 analog outputs 0/4 – 20 mA, 20 – 4/0 mA (internal supply)	
B		6 signal relays (NO/NC contacts) including FAULT (NO/NC contact) 2 analog outputs 0/4 – 20 mA, 20 – 4/0 mA (internal supply)	
C		6 signal relays (NO/NC contacts with 1 common) including FAULT (NO/NC contact) 2 analog outputs 0/4 – 20 mA, 20 – 4/0 mA (internal supply)	
1		6 signal relays (NO/NC contacts) including FAULT (NO/NC contact)	
2		5 signal relays (NO/NC contacts with 1 common) including FAULT (NO/NC contact) 1 signal relay (5) with NC contact	
3		6 signal relays (NO contacts) including FAULT (NO/NC contact) 2 analog outputs 0/4 – 20 mA, 20 – 4/0 mA (internal supply)	

1. Column	2. Column	= Wiring diagram number = Ordering code	Explanations/ Remarks
		11. Digit: BUS interface	
-		Without	Standard
S		PROFIBUS-DP	
T		PROFIBUS-DP with 4 digital and 2 analog customer inputs	
U		2 PROFIBUS-DP boards	
R		2 PROFIBUS-DP boards, with 4 digital and 2 analog customer inputs	
P		PROFIBUS-DP with 4 digital and 2 analog customer inputs and cable redundancy	
K		MODBUS-RTU	
L		MODBUS-RTU with 4 digital and 2 analog customer inputs	
1		MODBUS-RTU with cable redundancy	
M		MODBUS-RTU, with 4 digital and 2 analog customer inputs and cable redundancy	
J		2 MODBUS-RTU boards	
N		2 MODBUS-RTU boards, with 4 digital and 2 analog customer inputs	
E		DeviceNet	
D		DeviceNet, with 4 digital and 2 analog customer inputs	
F		2 DeviceNet boards	
G		2 DeviceNet boards, with 4 digital and 2 analog customer inputs	
B		Foundation Fieldbus	
C		Foundation Fieldbus with 4 digital and 2 analog customer inputs	

1. Column	2. Column	= Wiring diagram number = Ordering code	Explanations/ Remarks
		12. Digit: Special interface	
0		Standard Configuration	
		13. Digit: Wiring configuration (XK)	Please refer to appendix
0		Wiring configuration version I/O 1 / BUS 1 / Ex	
1		Reserved	
2		Wiring configuration version I/O 2	
3		Wiring configuration version I/O 3	
5		Wiring configuration version BUS 2	
6		Wiring configuration version BUS 3	I/O interface with BUS interface
S		Special	

1. Column	2. Column	= Wiring diagram number = Ordering code	Explanations/ Remarks
		14. Digit: Wiring Diagram Nomenclature	Table!!!!!!
		I/O Interface	
1		4 digital inputs (CLOSE-OPEN-STOP, EMERGENCY) 6 digital outputs	Standard
2		4 digital inputs (CLOSE-OPEN-STOP, EMERGENCY) 6 digital outputs 1 analog output (valve position)	
3		5 digital inputs (MODE-CLOSE-OPEN-STOP-EMERGENCY) 6 digital outputs 1 analog input (positioner), 1 analog output (feedback signal)	
4		4 digital inputs (CLOSE-OPEN-STOP, EMERGENCY) 6 digital outputs 2 analog outputs (valve position, torque)	With MWG
5		5 digital inputs (MODE-CLOSE-OPEN-STOP-EMERGENCY) 6 digital outputs 1 analogue input (positioner), 2 analogue outputs (valve position, torque)	With MWG
6		6 digital inputs (MODE-CLOSE-OPEN-STOP-EMERGENCY-ENABLE) 6 digital outputs 1 analogue input (positioner), 2 analogue outputs (valve position, torque)	With MWG
7		5 digital inputs (CLOSE-OPEN-STOP-EMERGENCY-ENABLE) 6 digital outputs 2 analogue outputs (valve position, torque)	With MWG
8		6 digital inputs (MODE-CLOSE-OPEN-STOP-EMERGENCY-ENABLE) 6 digital outputs 2 analogue inputs (setpoint, actual value) 1 analogue output (valve position)	With positioner with external feedback OR Process Controller (PID)
9		5 digital inputs (CLOSE-OPEN-STOP-EMERGENCY-ENABLE) 6 digital outputs 1 analogue output (valve position)	With position/torque feedback signal
A		5 digital inputs (MODE-CLOSE-OPEN-STOP-EMERGENCY) 6 digital outputs 2 analogue inputs (setpoint, actual value) 1 analogue output (valve position)	With positioner with external feedback OR Process Controller (PID)
B		5 digital inputs (MODE-CLOSE-OPEN-STOP-EMERGENCY) 6 digital outputs 2 analogue inputs (setpoint, actual value) 2 analogue outputs (valve position, torque)	With positioner with external feedback OR Process Controller (PID)
C		6 digital inputs (MODE-CLOSE-OPEN-STOP-EMERGENCY-ENABLE) 6 digital outputs 1 analogue input (setpoint) 1 analogue output (valve position)	With positioner

1. Column	2. Column	= Wiring diagram number = Ordering code	Explanations/ Remarks
		14. Digit: Wiring Diagram Nomenclature	
		BUS Interface	
0		BUS	Standard
A		BUS with auxiliary inputs: - STOP, CLOSE, OPEN, BUS/REMOTE - 0/4 – 20 mA (ANIN1), 0/4 – 20 mA (ANIN2)	
B		BUS with auxiliary inputs: - MODE, CLOSE, OPEN, BUS/REMOTE - 0/4 – 20 mA (setpoint), 0/4 – 20 mA (ANIN2)	
C		BUS with auxiliary inputs: - EMERGENCY, CLOSE, OPEN, BUS/REMOTE - 0/4 – 20 mA (ANIN1), 0/4 – 20 mA (ANIN2)	
D		BUS with auxiliary inputs: - 24 V DC (DIGIN1…4) - 0/4 – 20 mA (AININ1), 0/4 – 20 mA (actual value)	PID only
E		BUS with auxiliary inputs: - MODE, CLOSE, OPEN, BUS/REMOTE - 0/4 – 20 mA (setpoint), 0/4 – 20 mA (actual value)	PID only
		BUS Interface with I/O Interface	
A		BUS I/O Interface: 6 digital inputs (CLOSE-OPEN-STOP-EMERGENCY-BUS) 6 digital outputs 1 analog input (setpoint) 2 analog outputs (valve position, torque)	
B		BUS I/O Interface: 6 digital inputs (CLOSE-OPEN-STOP-EMERGENCY-BUS) 6 digital outputs 1 analog input (setpoint) 1 analog output (valve position)	
C		BUS with auxiliary inputs: - EMERGENCY, CLOSE, OPEN, BUS/REMOTE - 0/4 – 20 mA (ANIN1), 0/4 – 20 mA (ANIN2) I/O Interface: 6 digital inputs (CLOSE-OPEN-STOP-EMERGENCY-BUS) 6 digital outputs 1 analog input (setpoint) 2 analog outputs (valve position, torque)	
D		BUS with auxiliary inputs: - 24 V DC (DIGIN1…4) - 0/4 – 20 mA (AININ1), 0/4 – 20 mA (actual value) 6 digital inputs (CLOSE-OPEN-STOP-EMERGENCY-BUS) 6 digital outputs 1 analog input (setpoint) 1 analog output (valve position)	PID only

1. Column	2. Column	= Wiring diagram number = Ordering code	Explanations/ Remarks
		14. Digit: Wiring Diagram Nomenclature	
		Special versions	
0		4 digital inputs (CLOSE-OPEN-STOP, EMERGENCY): CLOSE and OPEN on 12-pin-plug 6 digital outputs FAULT, DOUT1 to DOUT4 on 12-pin-plug 2 analog outputs (valve position, torque)	If 2nd digit = 4
1		4 digital inputs (CLOSE-OPEN-STOP, EMERGENCY): CLOSE and OPEN on 12-pin-plug 6 digital outputs FAULT, DOUT1 to DOUT4 on 12-pin-plug 2 analog outputs (position feedback, torque feedback): position feedback on 5-pin-plug	If 2nd digit = 4

Appendix

Wiring configuration (XK)

Pin	Version I/O 1	Version I/O 2	Version I/O 3	KP compatible
U1	L1	L1	L1	L1
V1	L2	L2	L2	L2
W1	L3	L3	L3	L3
U2				
V2				
W2				
1	24V ext (out)	24V /115V ext (out)	24V ext /115V (out)	24V ext /115V (out)
2	GND ext	GND ext	GND ext	GND ext
3	DI1	DI1	DI1	DI1
4	DI2	DI2	DI2	DI2
5	DI3	DI3	DI3	DI3
6	DI4	DI4	DI4	DI4
7	COM DI	COM DI	COM DI	COM DI
8	EMERGENCY	EMERGENCY	EMERGENCY	EMERGENCY
9	COM EMERGENCY	COM EMERGENCY	COM EMERGENCY	COM EMERGENCY
10	ENABLE	ENABLE	ENABLE	ENABLE
11	COM ENABLE	COM ENABLE	COM ENABLE	COM ENABLE
12	AI1+	AI1+	AI1+	AI1+
13	AI1-	AI1-	AI1-	AI1-
14	FAULT	FAULT	FAULT	FAULT
15	FAULT	FAULT	FAULT	FAULT
16	FAULT	FAULT	FAULT	FAULT
17	R1	R1	R1	R1
18	R2	R1	R1	R2
19	R3	R1	R1	R3
20	R4	R2	R2	R4
21	R5	R2	R2	R5
22	COM Rx	R2	R2	COM Rx
23	AO1+	AO1+	AO1+	AO1+
24	AO1-	AO1-	AO1-	AO1-
25	24V ext (in)	LS/TS	LS/TS	KES only
26	GND ext (in)	LS/TS	LS/TS	KES only
27	AI2+	LS/TS	LS/TS	KES only
28	AI2-	LS/TS	LS/TS	KES only
29	AO2+	LS/TS	LS/TS	KES only
30	AO2-	LS/TS	LS/TS	KES only
31				24V ext (in)
32		R3	R3	GND ext (in)
33	LS/TS	R3	R3	
34	LS/TS	R3	R3	
35	LS/TS	R4	R4	
36	LS/TS	R4	R4	
37	LS/TS	R4	R4	
38	LS/TS	R5	R5	
39	LS/TS	R5	R5	
40	LS/TS	R5	R5	
41		24V ext (in)	24V ext (in)	KES only
42		GND ext (in)	GND ext (in)	KES only
43		LS	AI2+	KES only
44		LS	AI2-	KES only
45		LS	AO2+	KES only
46		LS	AO2-	KES only
47	CANL	AI2+	CANL	AI2+
48	CANH	AI2-	CANH	AI2-
49	+24VDC	AO2+	+24VDC	AO2+
50	GND	AO2-	GND	AO2-

Legend	
AI...	Analogue Input
AO...	Analogue Output
COM...	Common Contact
DI..	Digital Input
CH1...	Bus Channel 1
CH2...	Bus Channel 2
R...	Output Relay

Appendix

Wiring configuration (XK)

Pin	Version BUS 1	Version BUS 2	Version BUS 3	KP compatible
U1	L1	L1	L1	L1
V1	L2	L2	L2	L2
W1	L3	L3	L3	L3
U2				
V2				
W2				
1		24V ext (out)	24V ext (out)	24V ext (out)
2		GND ext	GND ext	GND ext
3	DI1 (BUS)	DI1	DI1	DI1 (BUS)
4	DI2 (BUS)	DI2	DI2	DI2 (BUS)
5	DI3 (BUS)	DI3	DI3	DI3 (BUS)
6	DI4 (BUS)	DI4	DI4	DI4 (BUS)
7	COM DIx (BUS)	COM DI	COM DI	COM DIx (BUS)
8		EMERGENCY	EMERGENCY	
9		COM EMERGENCY	COM EMERGENCY	
10		ENABLE	ENABLE	
11		COM ENABLE	COM ENABLE	
12	AI1+ (BUS)	AI1+ or AO1+	AI1+ or AO1+	AI1+ (BUS)
13	AI1- (BUS)	AI1- or AO1-	AI1- or AO1-	AI1- (BUS)
14		FAULT	FAULT	AI2+ (BUS)
15		FAULT	FAULT	AI2- (BUS)
16		FAULT	FAULT	
17		R1	R1	
18		R1	R2	
19		R1	R3	
20		R2	R4	
21		R2	R5	
22		R2	COM Rx	
23		AI2+ or AO2+	AI2+	
24		AI2- or AO2-	AI2-	
25	24V ext (in)	CANL	24V ext (in)	KES only
26	GND ext (in)	CANH	GND ext (in)	KES only
27	AI2+ (BUS)	+24V	AI2+	KES only
28	AI2- (BUS)	+15V	AI2-	KES only
29		+5V	AO2+	KES only
30		GND	AO2-	KES only
31	CH1 PB	CH1 PB	CH1 PB	CH1 PB
32	CH1 NA	CH1 NA	CH1 NA	CH1 NA
33	CH1 PR	CH1 PR	CH1 PR	CH1 PR
34	CH1 NR	CH1 NR	CH1 NR	CH1 NR
35	CH2 PB	CH2 PB	CH2 PB	CH2 PB
36	CH2 NA	CH2 NA	CH2 NA	CH2 NA
37	CH2 PR	CH2 PR	CH2 PR	CH2 PR
38	CH2 NR	CH2 NR	CH2 NR	CH2 NR
39	GND float	GND float	GND float	GND float
40	5V float	5V float	5V float	5V float
41	CANL	R3	DI1 (BUS)	KES only
42	CANH	R3	DI2 (BUS)	KES only
43	+24V	R3	DI3 (BUS)	KES only
44	+15V	R4	DI4 (BUS)	KES only
45	+5V	R4	COM DIx (BUS)	KES only
46	GND	R4		KES only
47	HEATER	R5	AI1+ (BUS)	
48	HEATER	R5	AI1- (BUS)	
49	HEATER 2	R5	AI2+ (BUS)	

Legend	
AI...	Analog Input
AO...	Analog Output
COM...	Common Contact
DI..	Digital Input
CH1...	Bus Channel 1
CH2...	Bus Channel 2
R…	Output Relay

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50	HEATER 2	AI2- (BUS)