

Project: CALMS CAL-PM-X Device

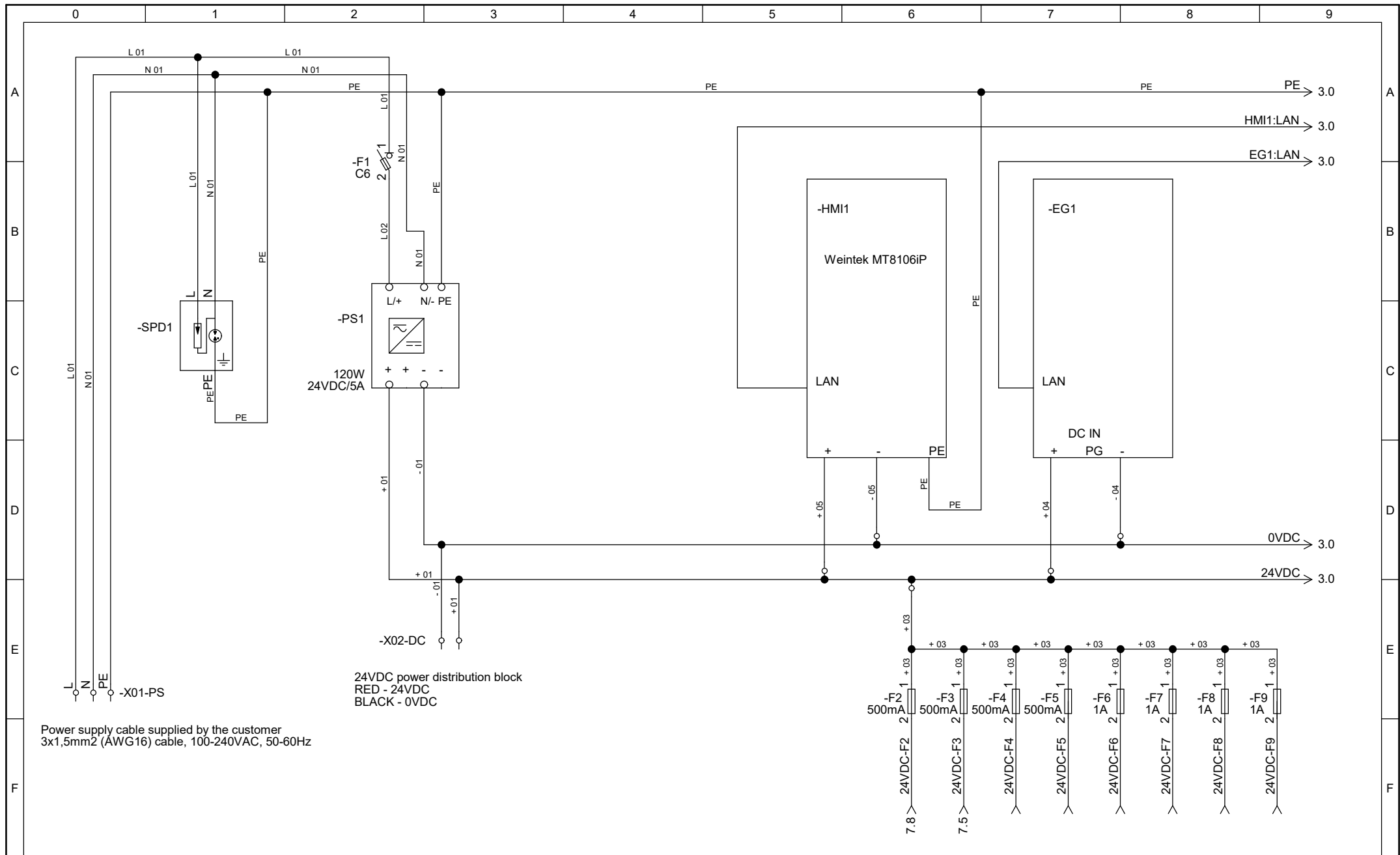
Client: CALMS d.o.o.
Address: Dolenjska cesta 83a
1000 Ljubljana

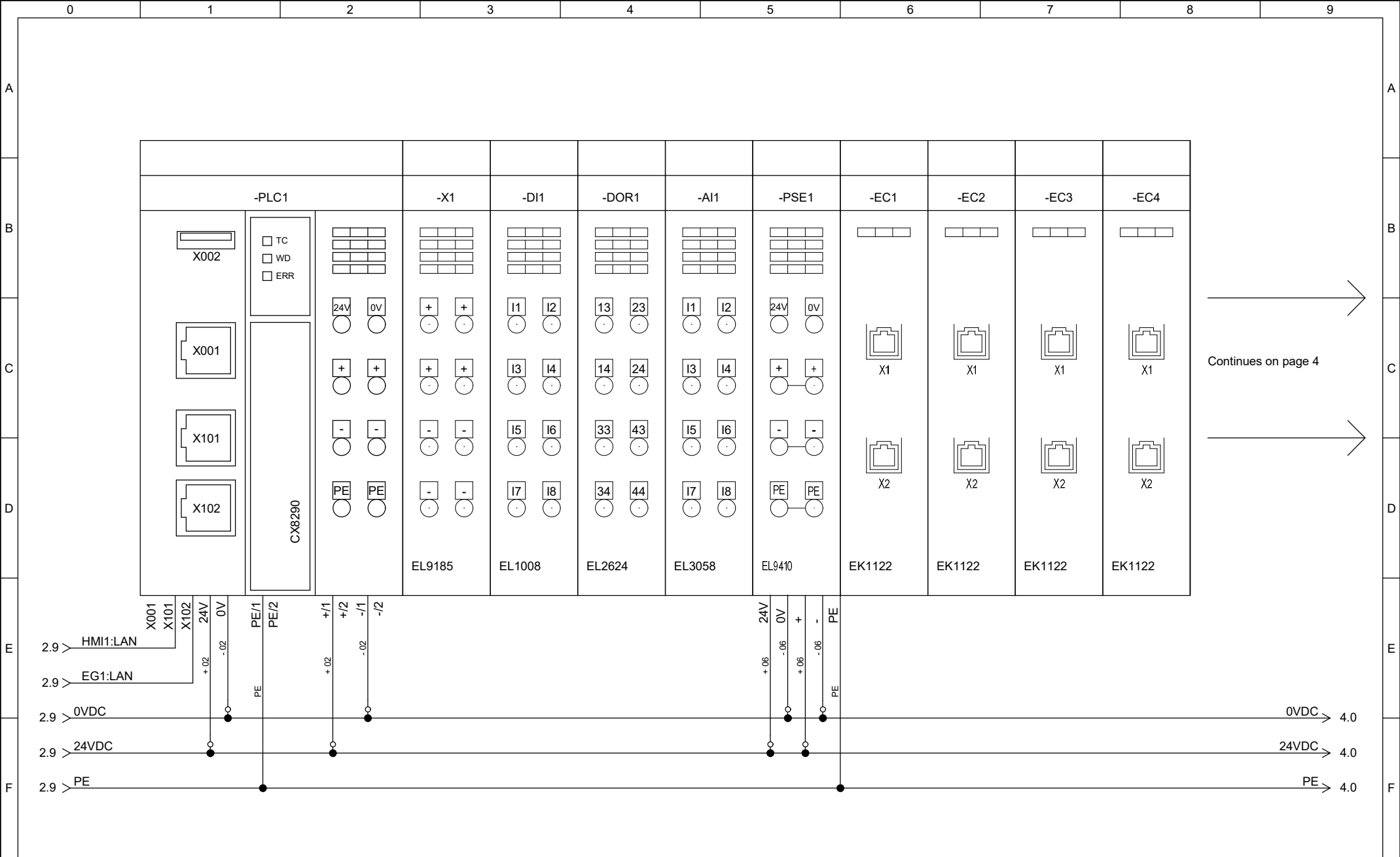


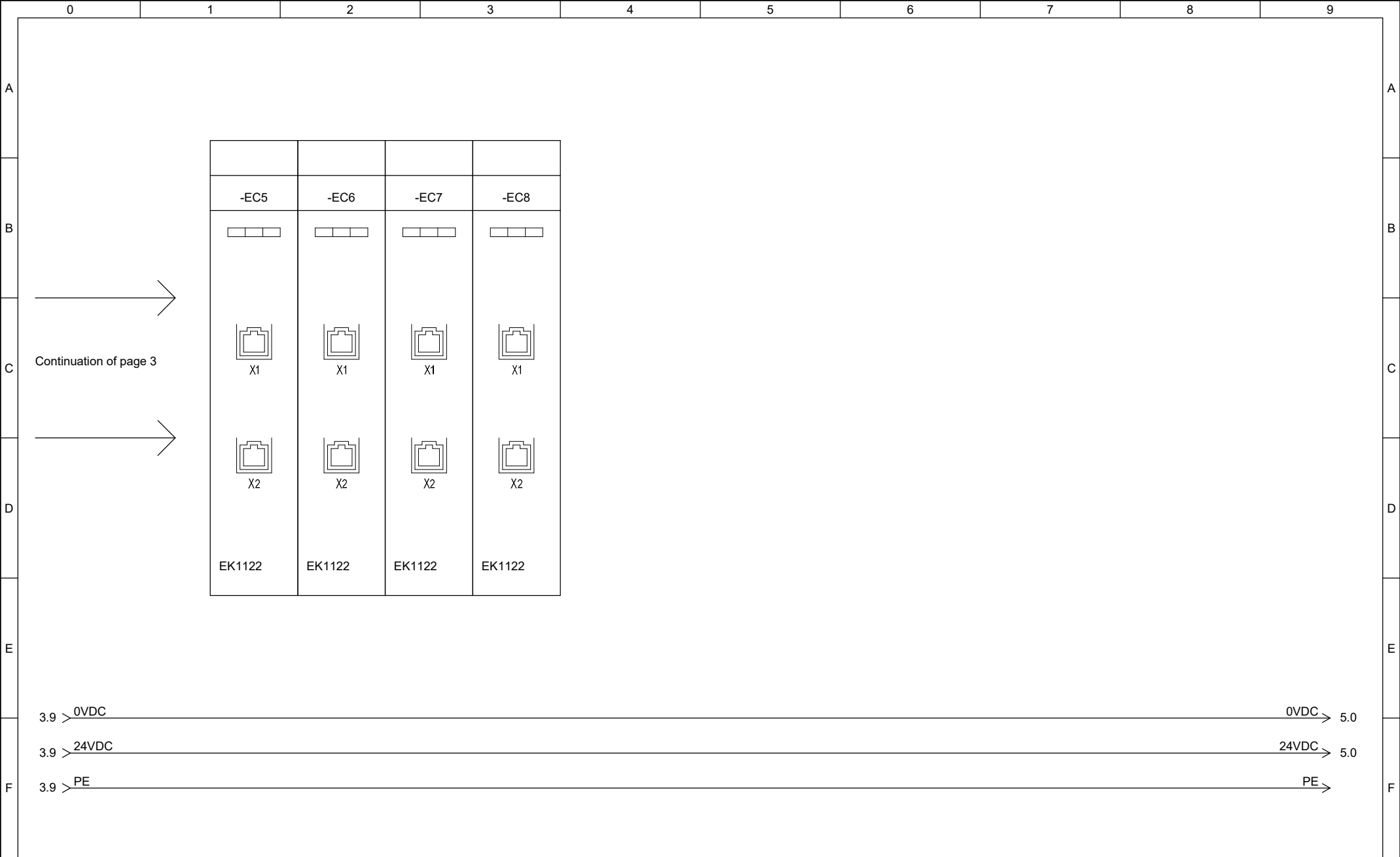
Project:
CALMS CAL-PM-X Device

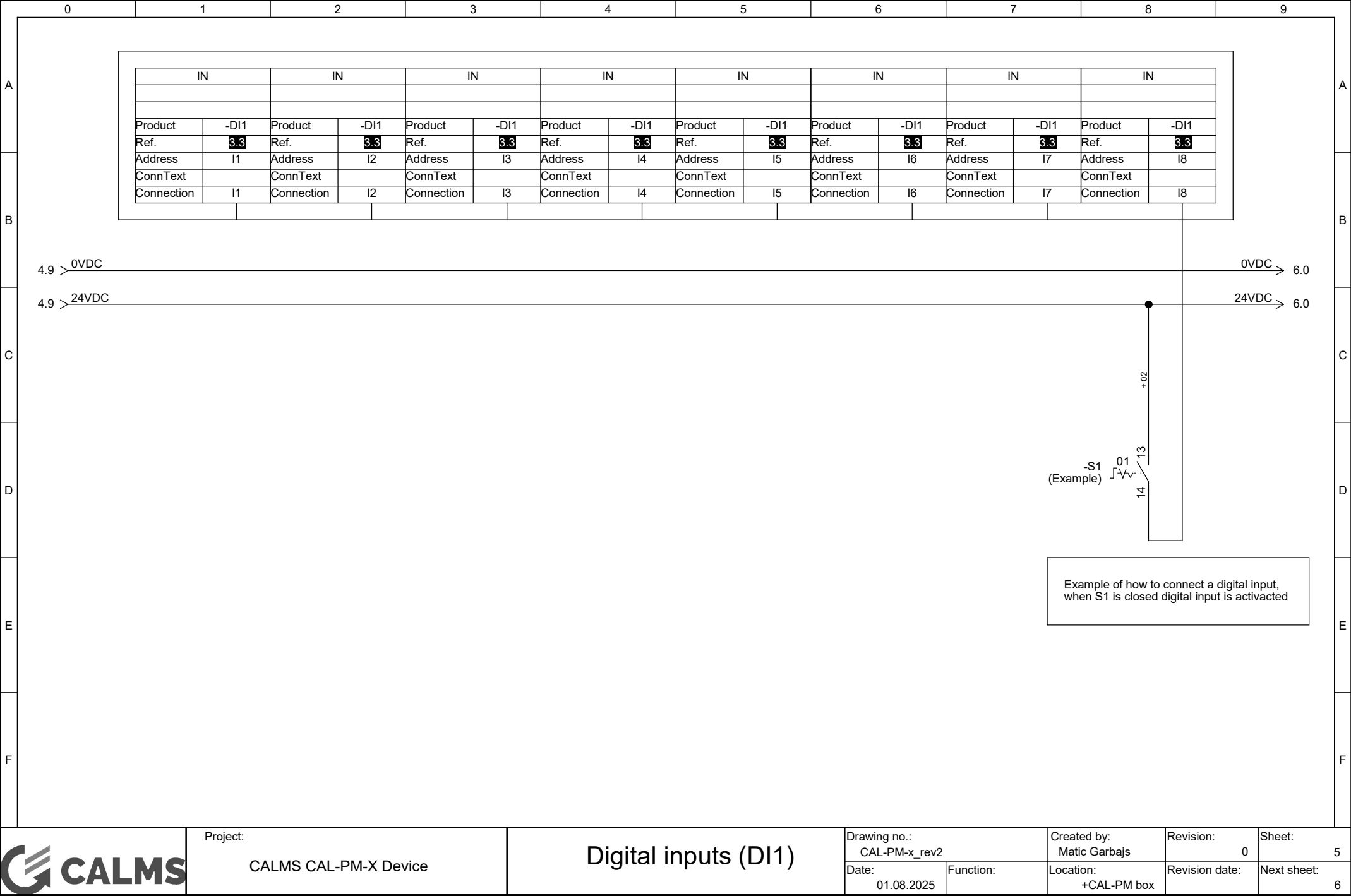
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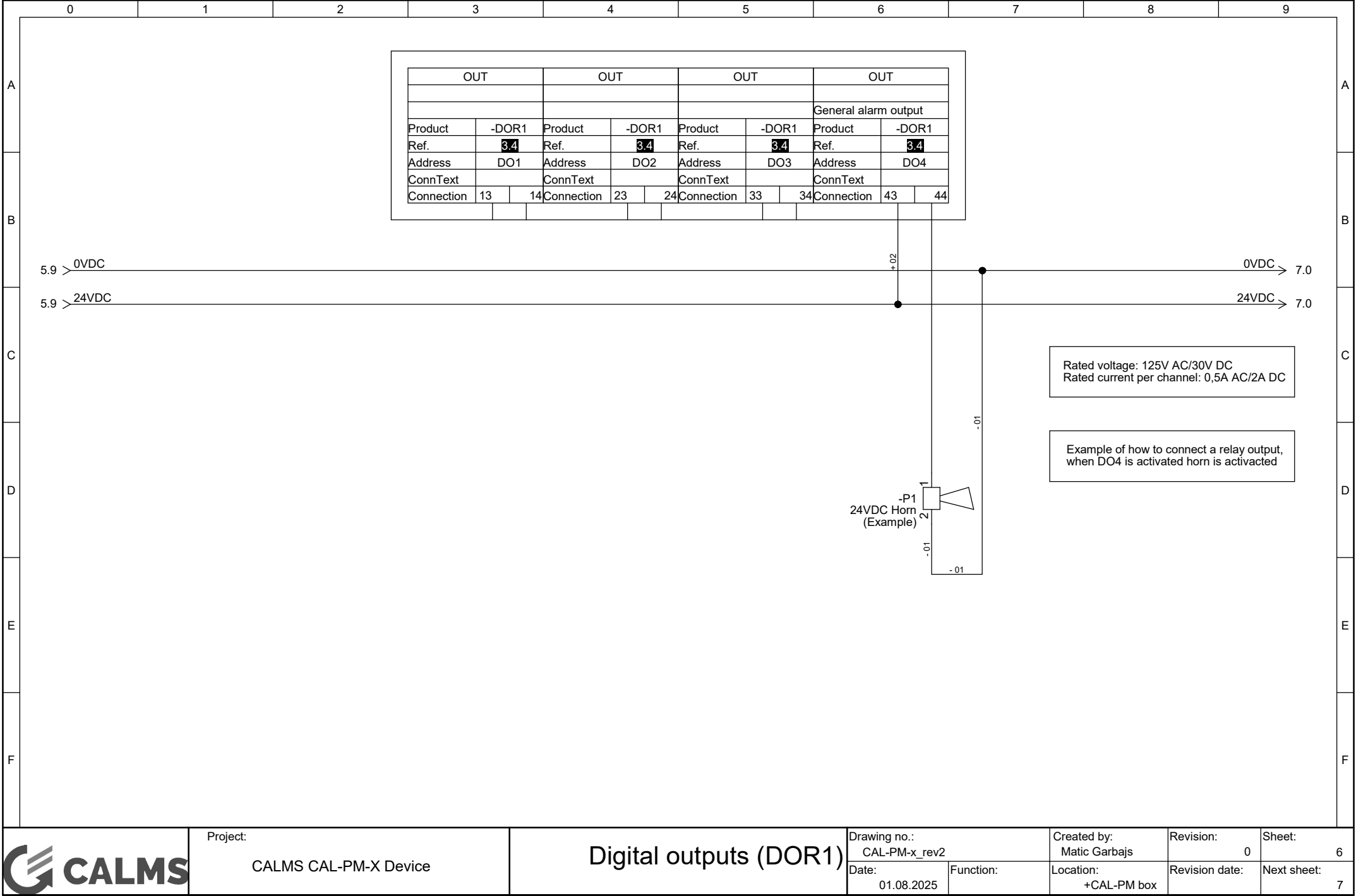
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Date: 01.08.2025	Function:	Location:	Revision date:	Next sheet: 2

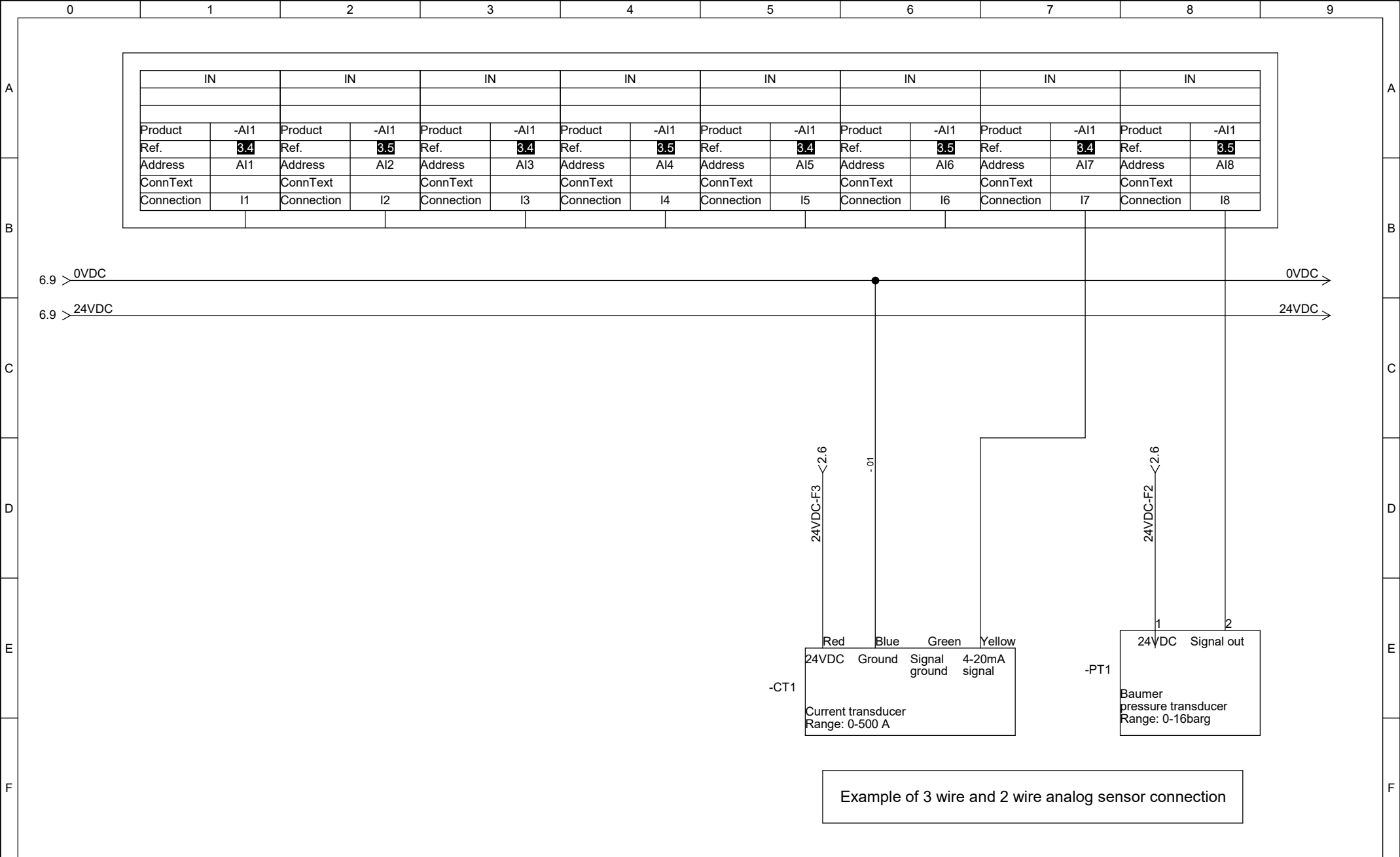


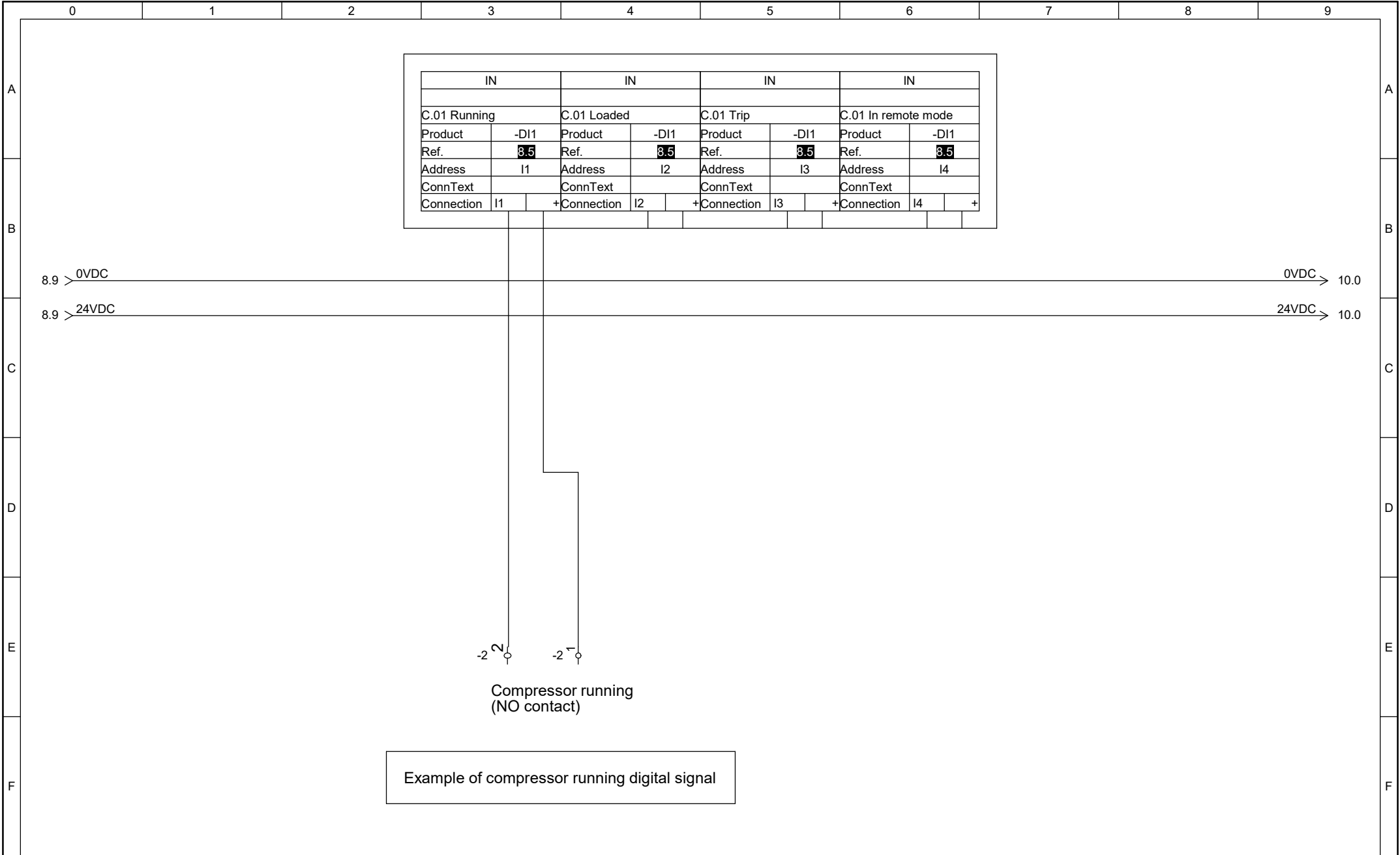


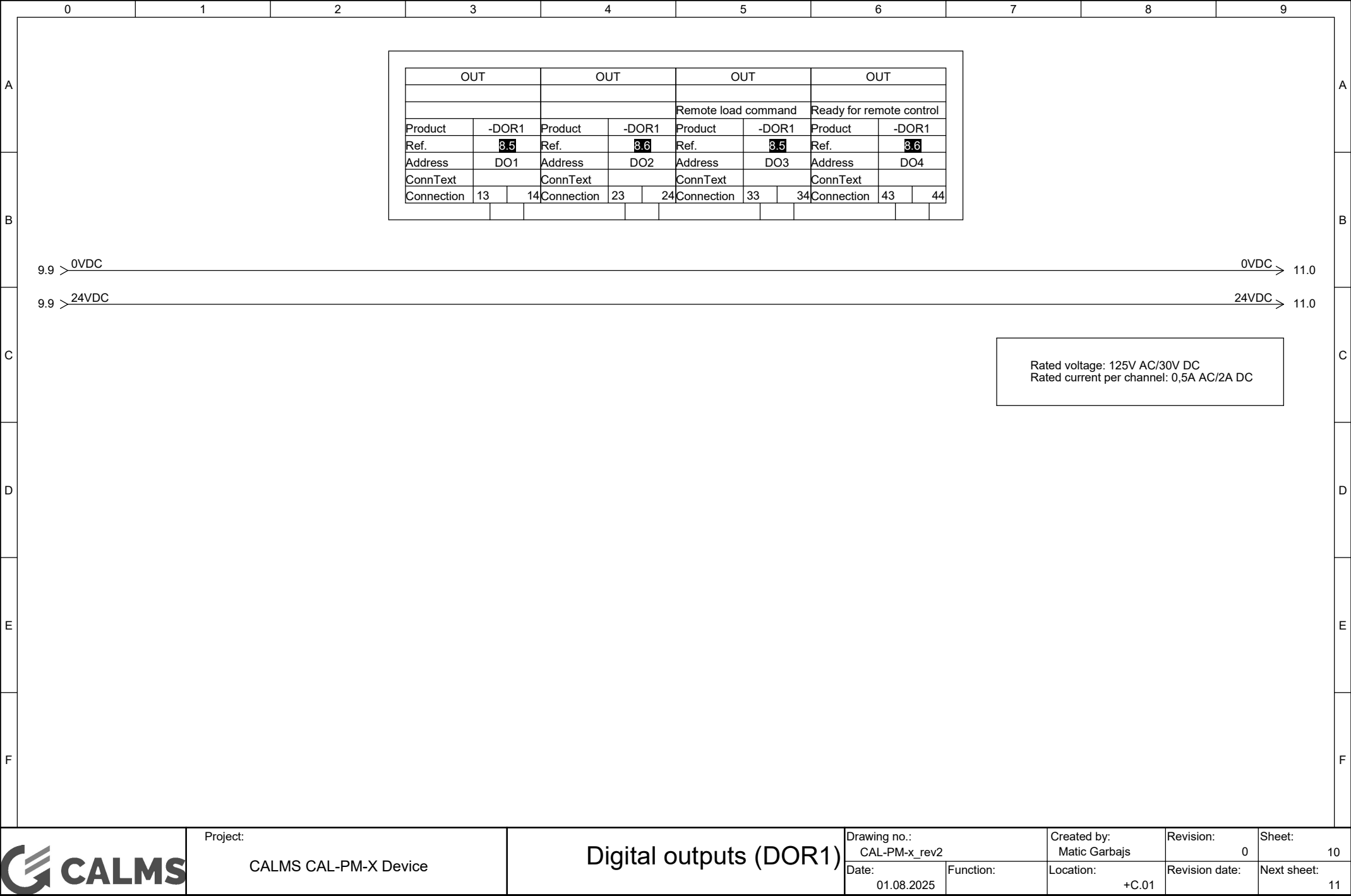


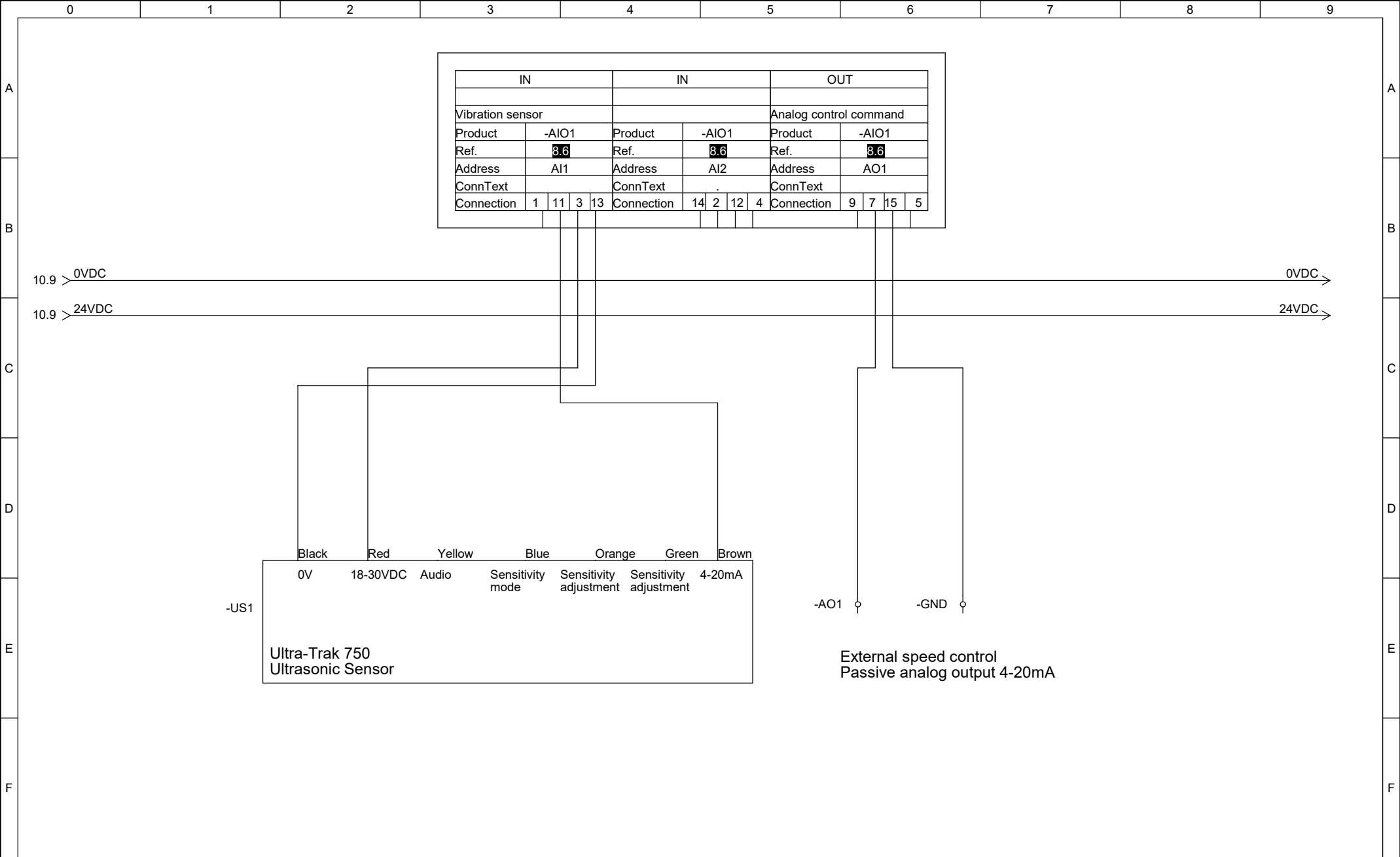


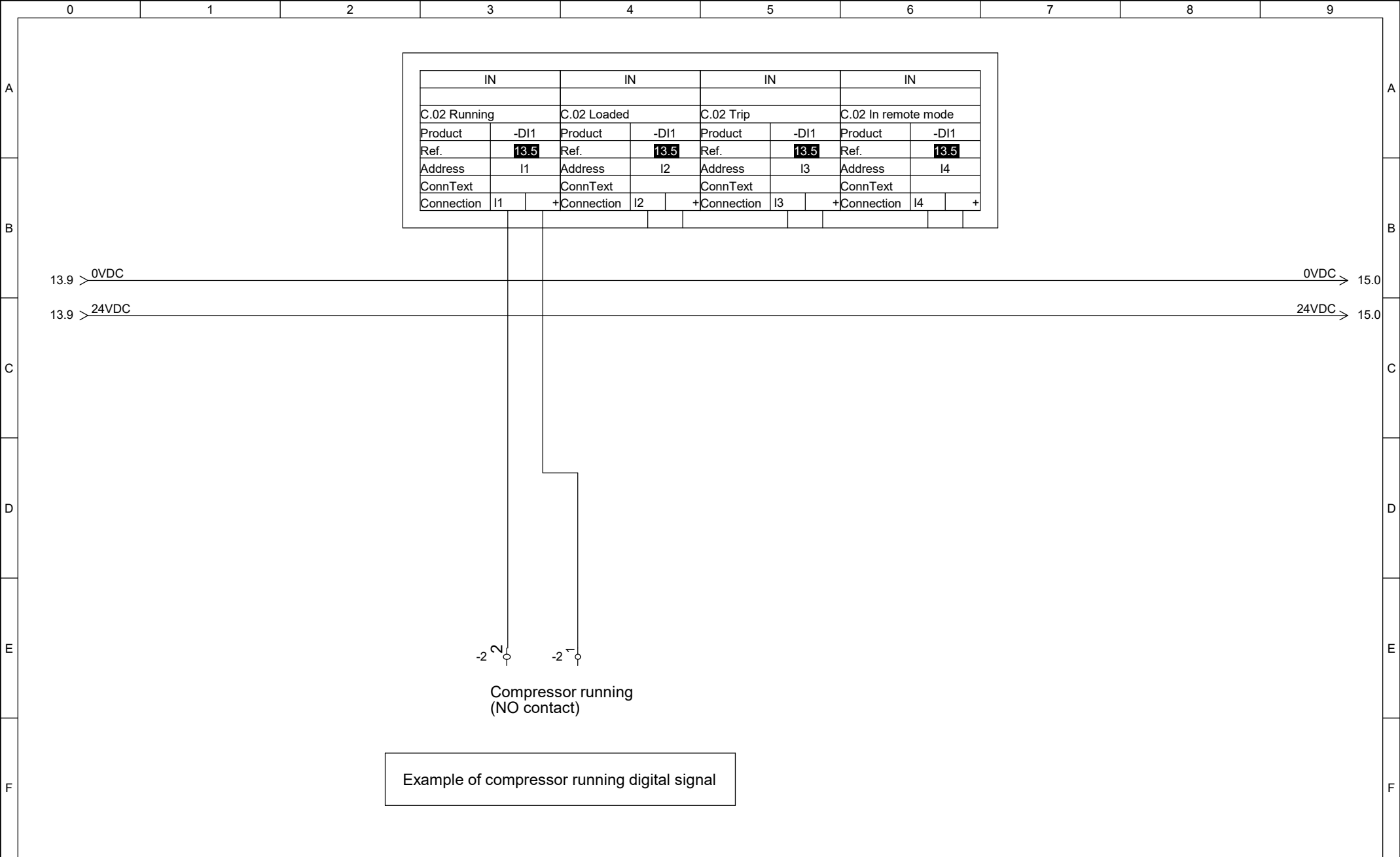


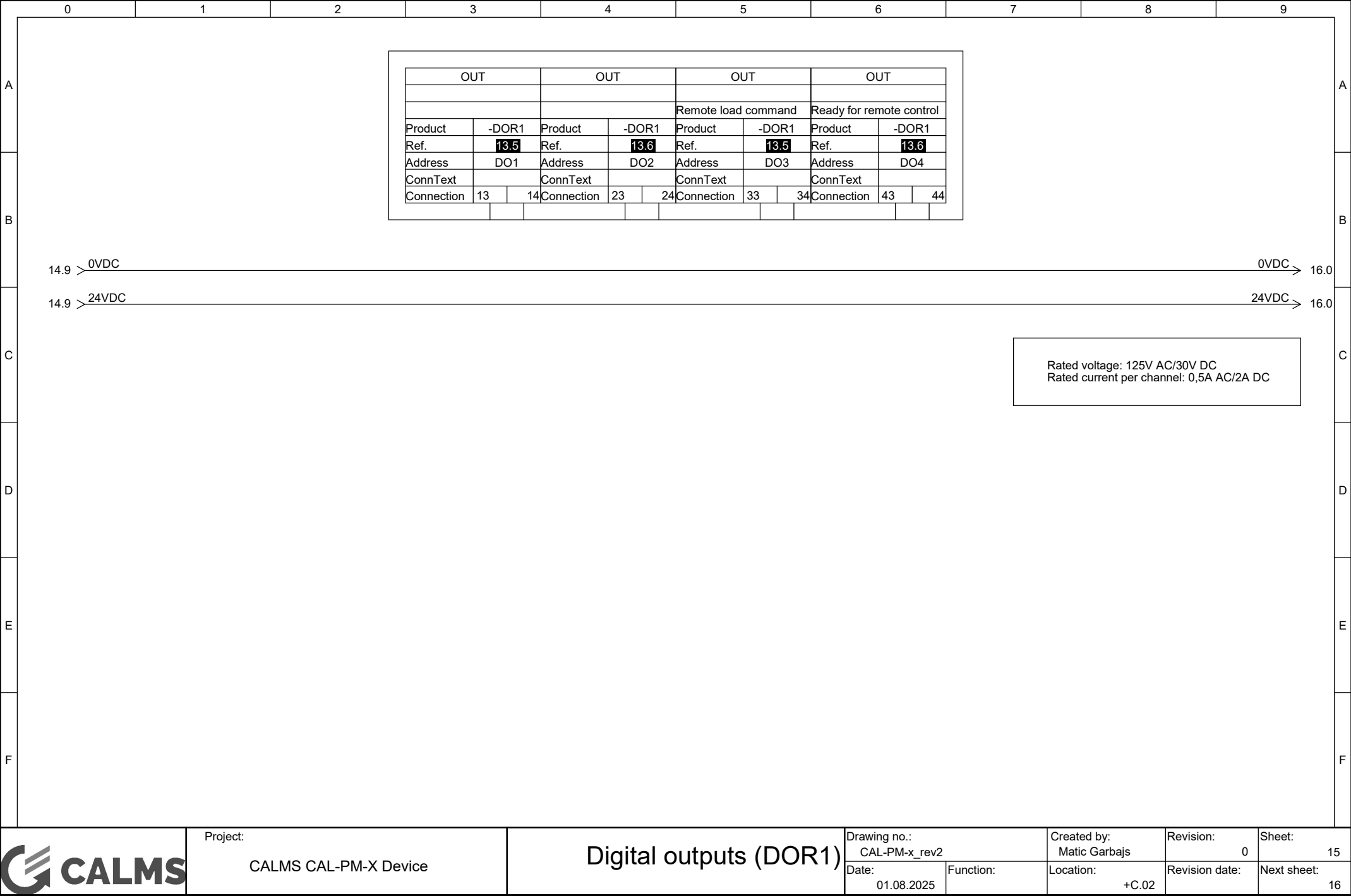


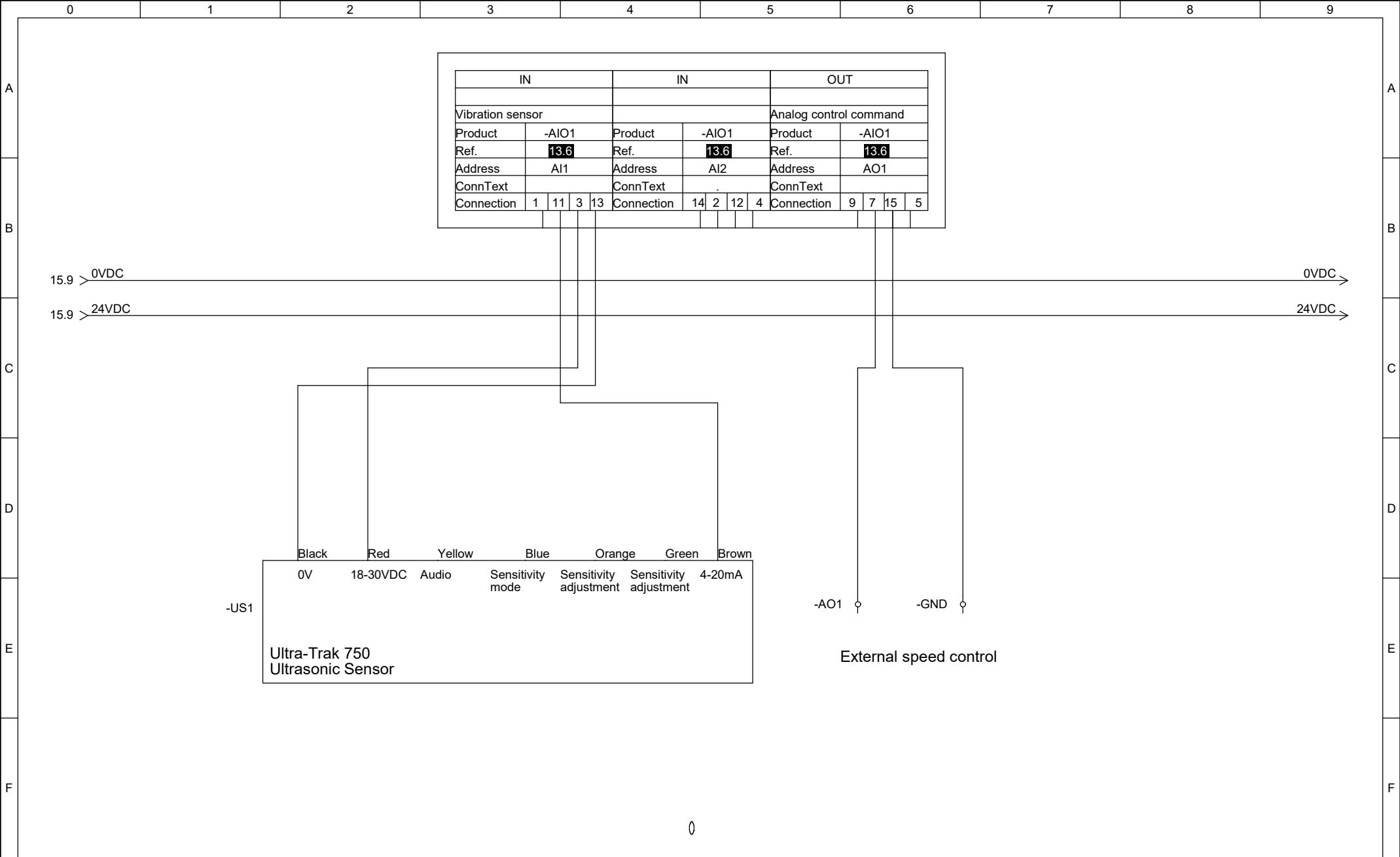












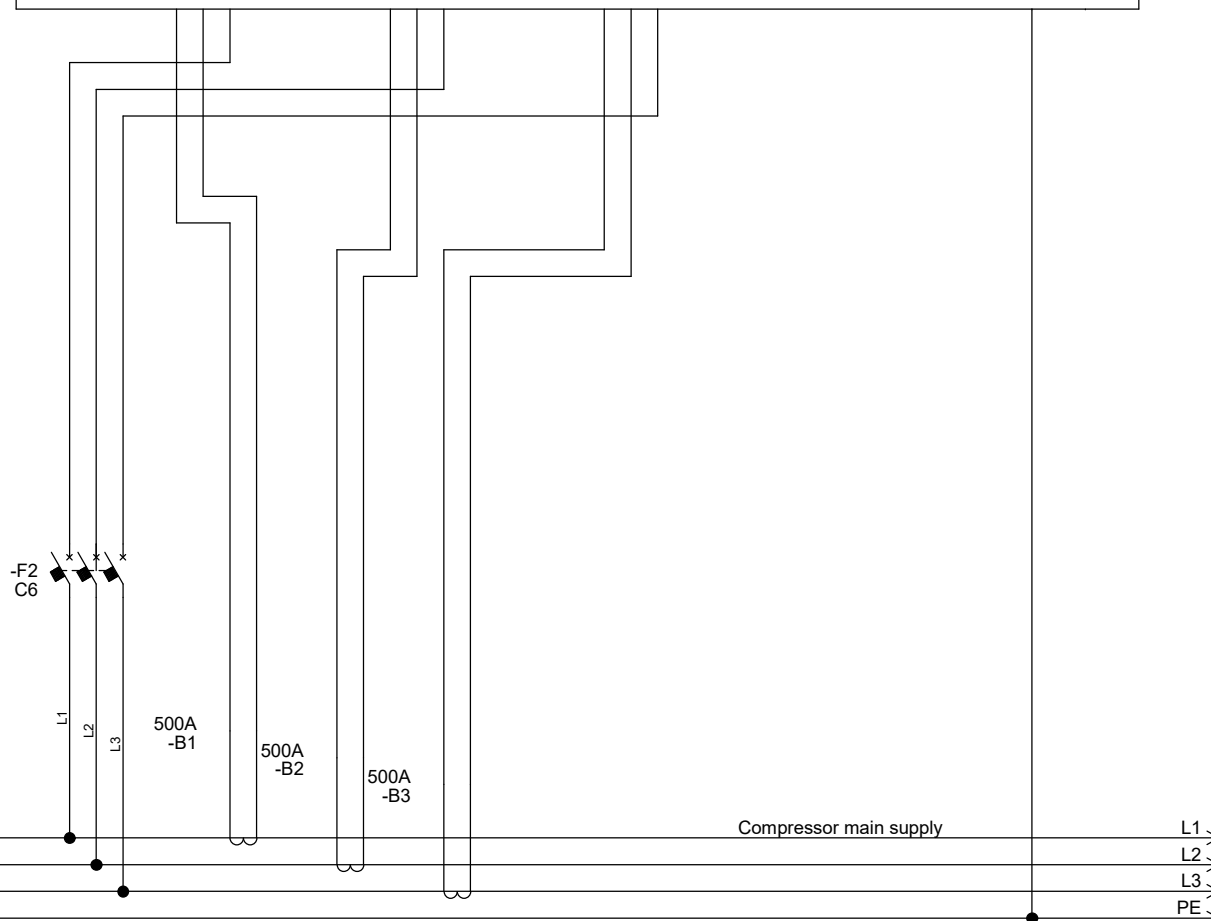
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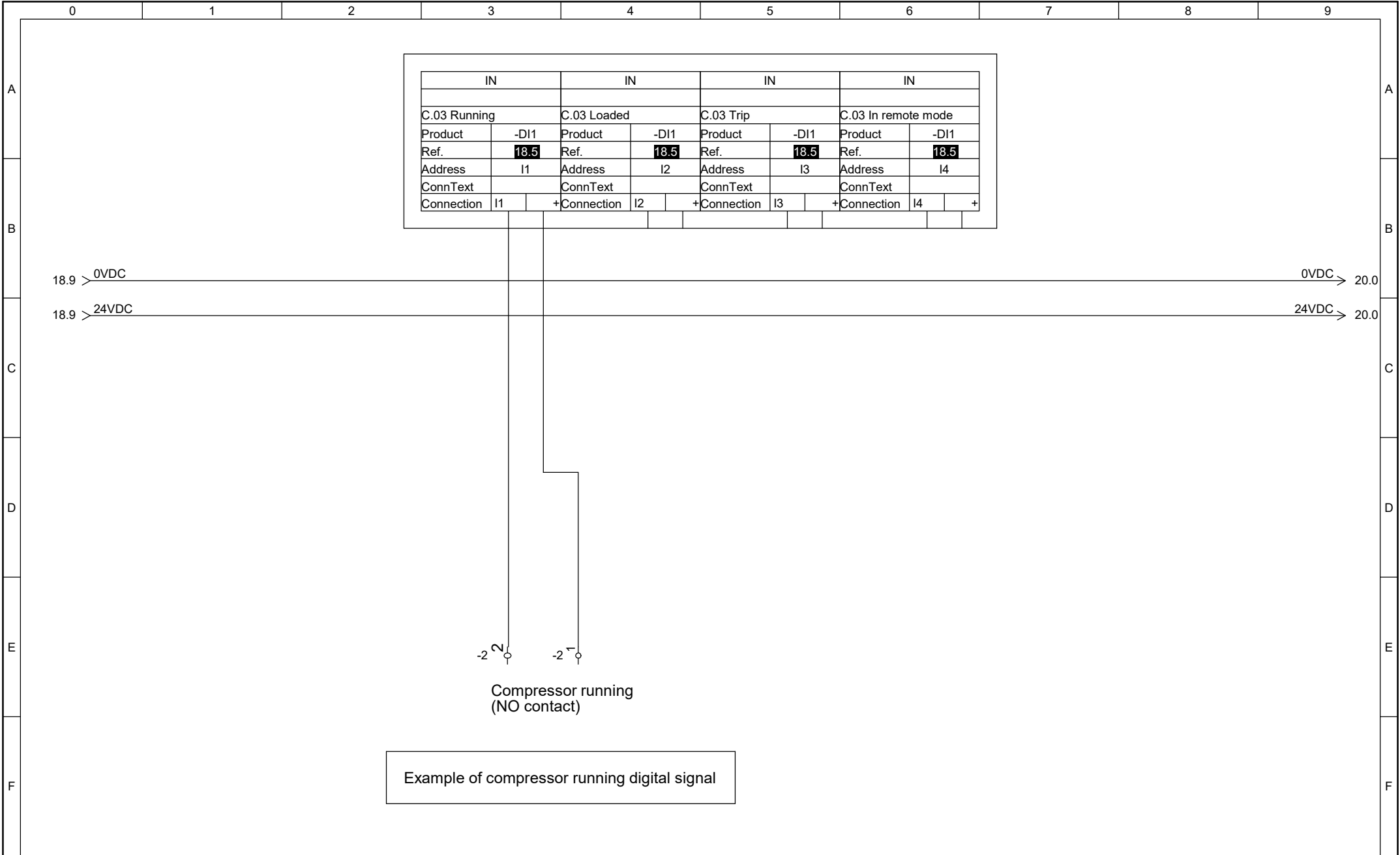
Note: Phase Sequence and CT Alignment for AIP Power Analyzer
Ensure that the phase sequence (L1–L2–L3) is correct before powering the AIP power analyzer

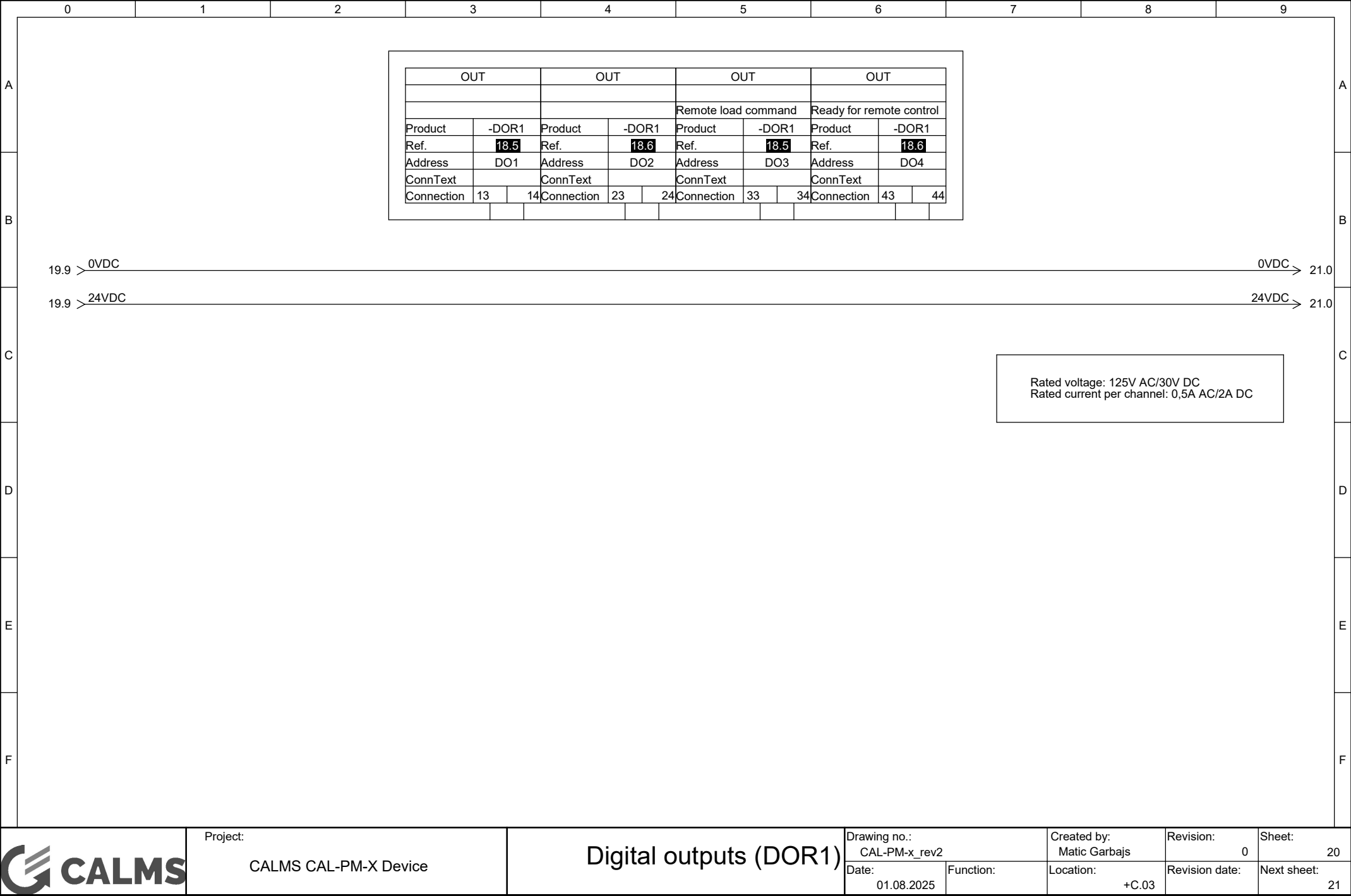
Additionally, make sure that the current transformers (CTs) are connected in the same phase sequence as the corresponding phase voltages

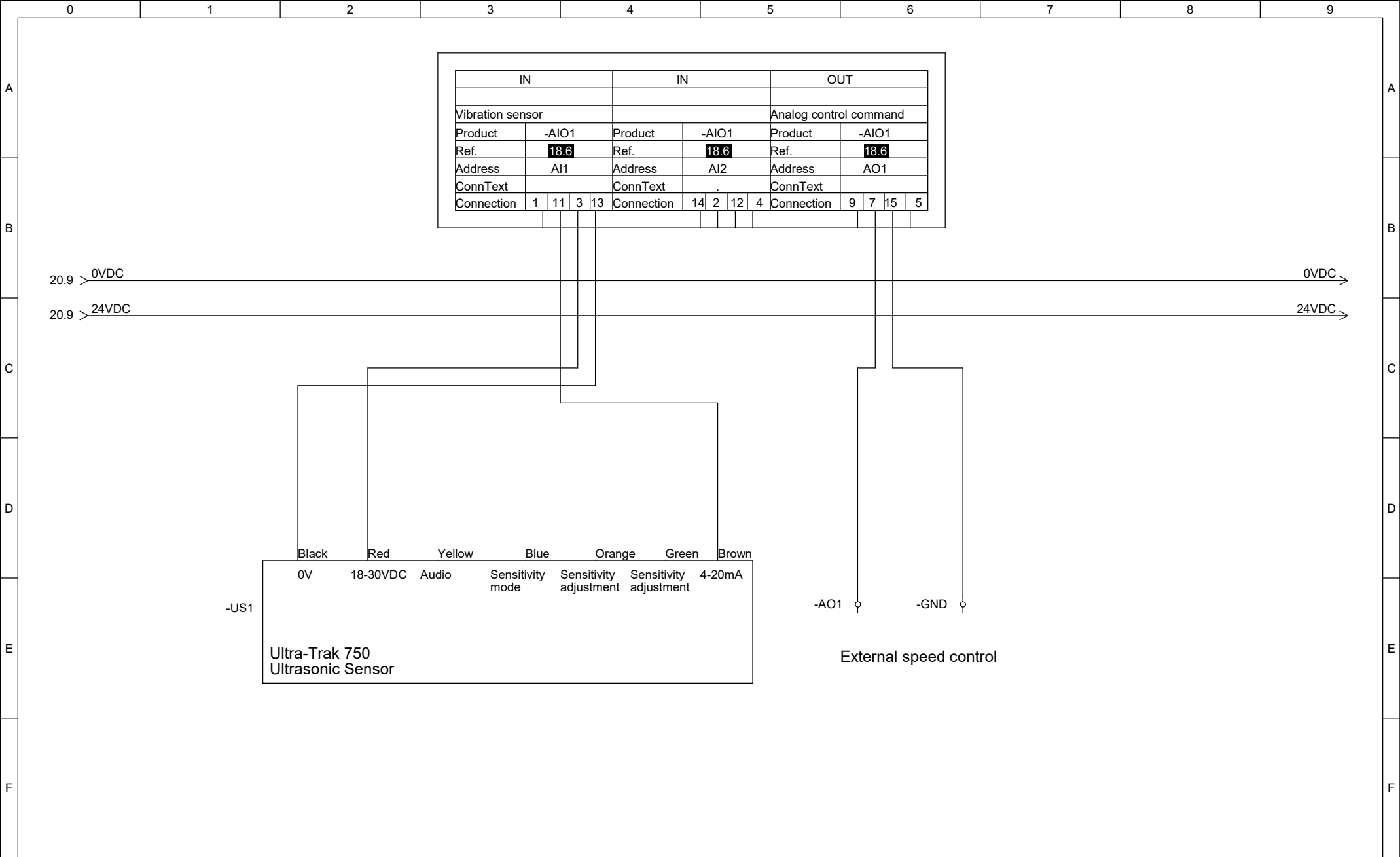
Incorrect phase rotation or CT-phase mismatch can result in inaccurate power and energy measurements.

IN			IN			IN			IN			IN		
Product	-AIP1		Product	-AIP1		Product	-AIP1		Product	-AIP1				
Ref.	13.7		Ref.	13.7		Ref.	13.7		Ref.	13.7				
Address	AIP-L1		Address	AIP-L2		Address	AIP-L3		Address	AIP1-IN				
ConnText			ConnText			ConnText			ConnText					
Connection	IL1	L1	Connection	IL2	L2	Connection	IL3	L3	Connection	IN	IN'	Connection	N	N'









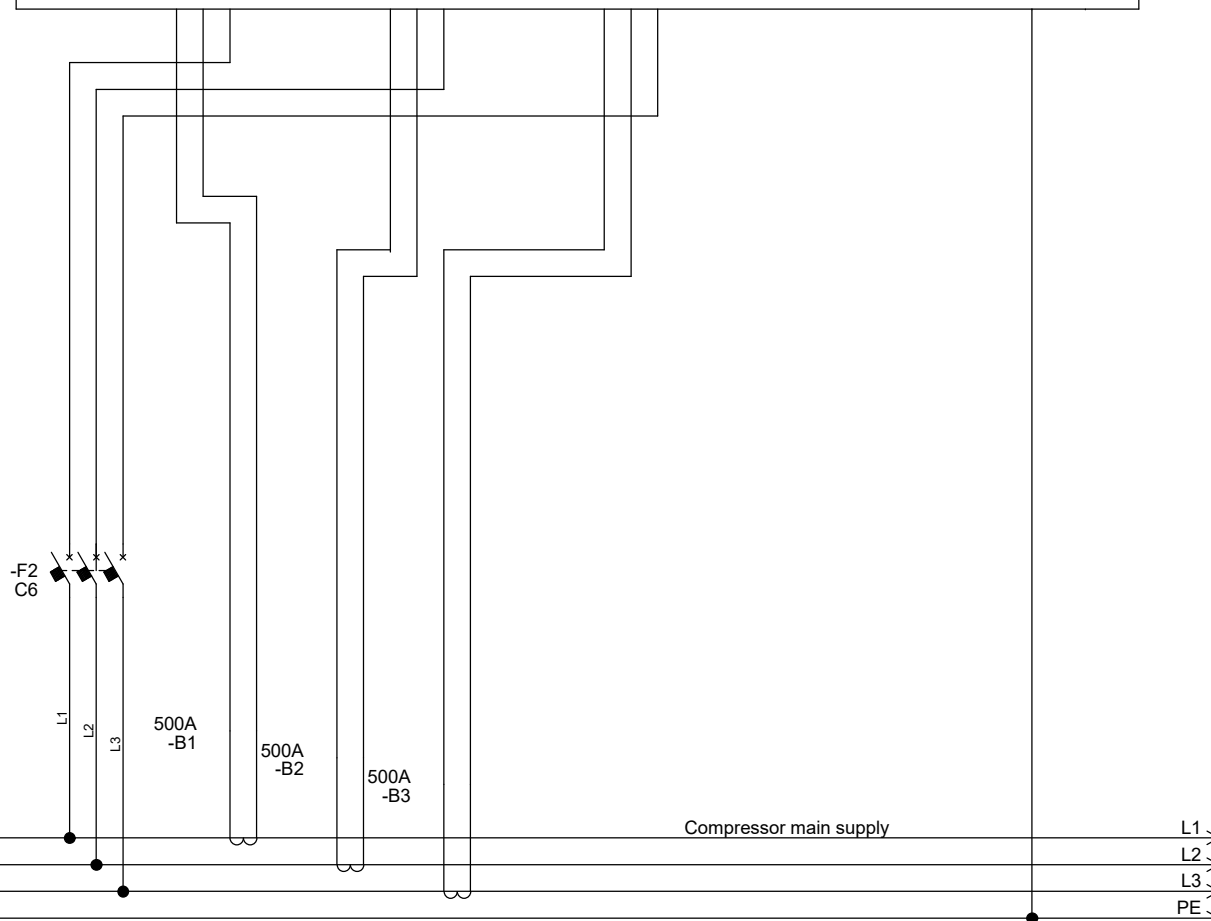
0	1	2	3	4	5	6	7	8	9
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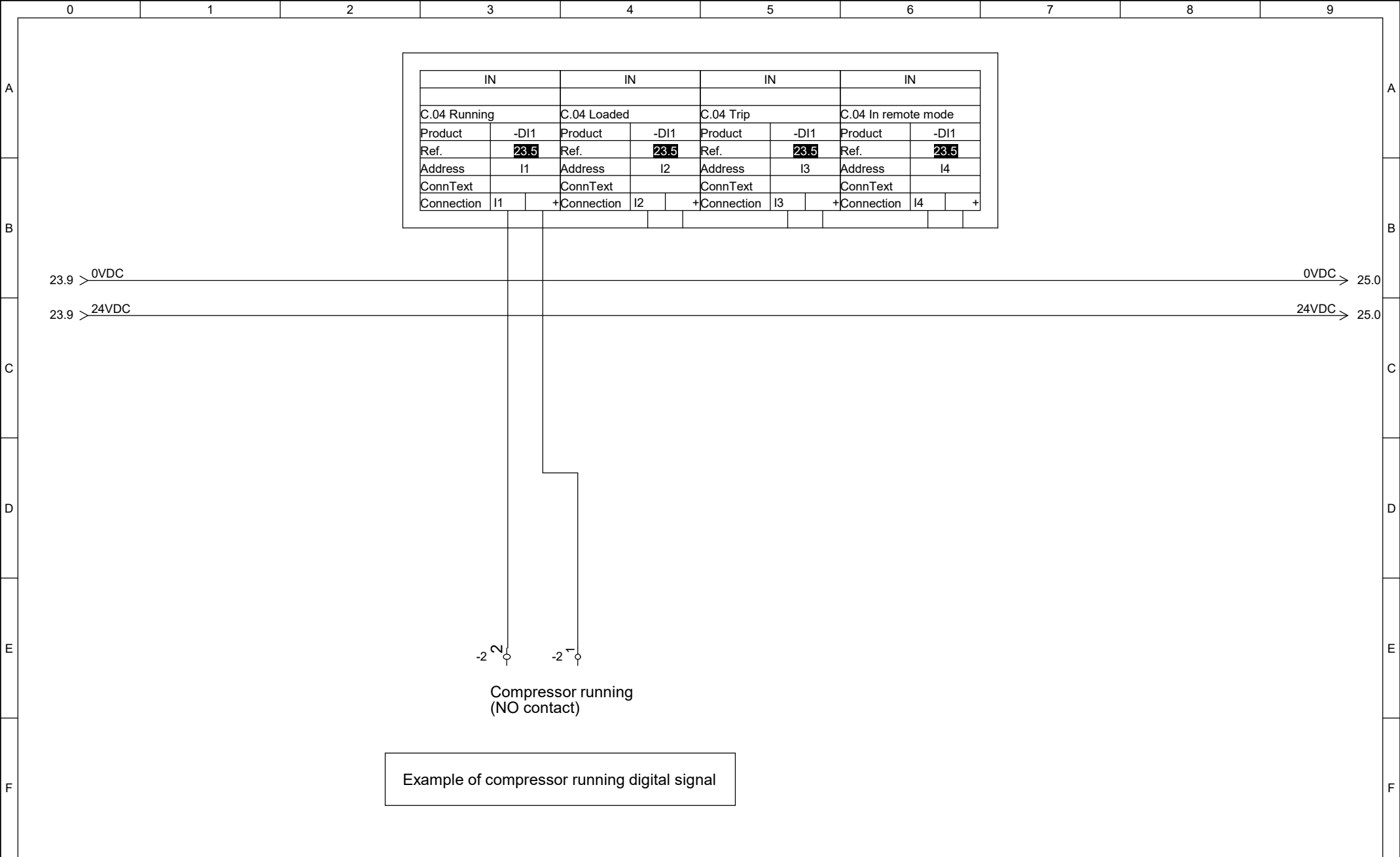
Note: Phase Sequence and CT Alignment for AIP Power Analyzer
Ensure that the phase sequence (L1–L2–L3) is correct before powering the AIP power analyzer

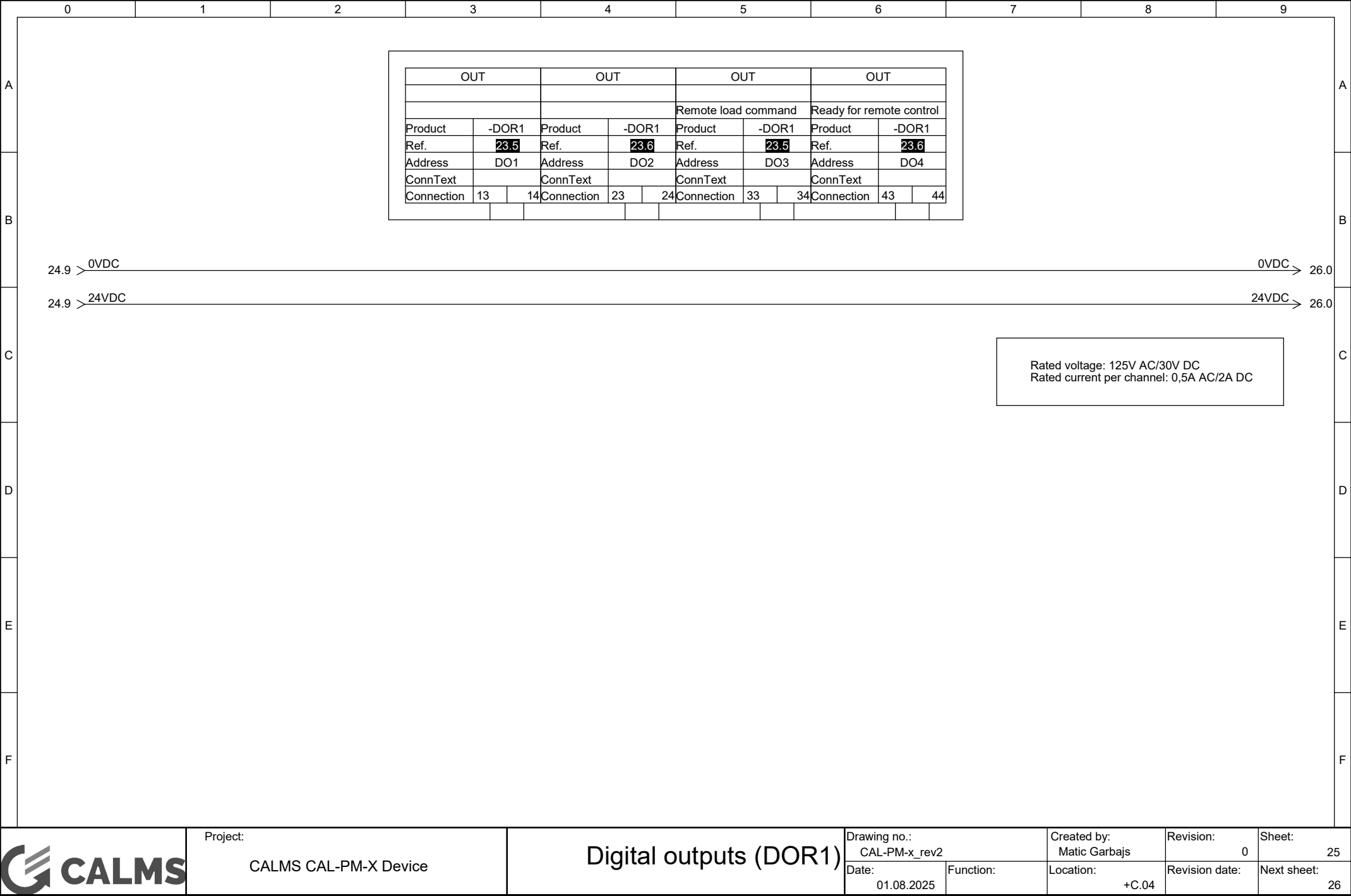
Additionally, make sure that the current transformers (CTs) are connected in the same phase sequence as the corresponding phase voltages

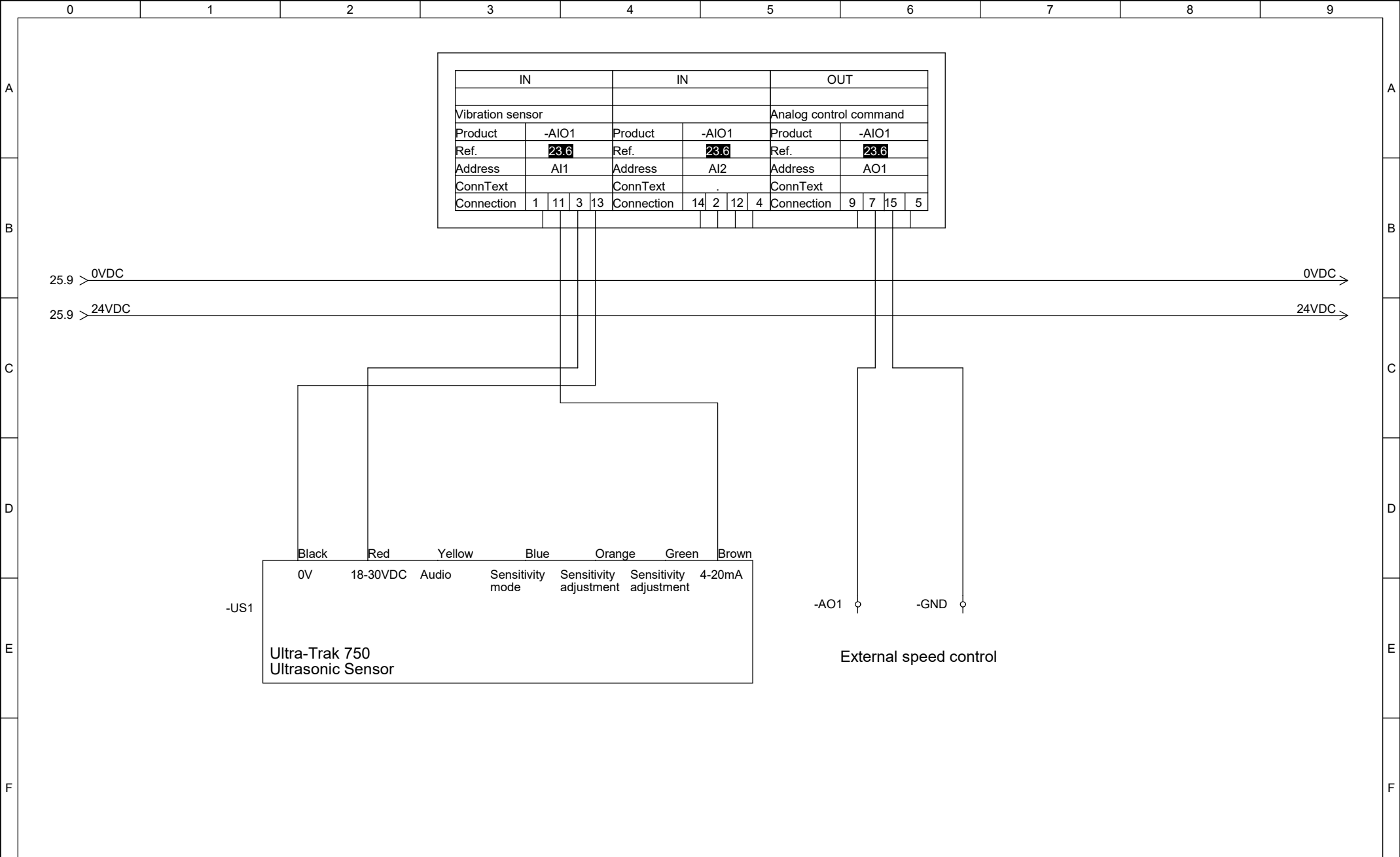
Incorrect phase rotation or CT-phase mismatch can result in inaccurate power and energy measurements.

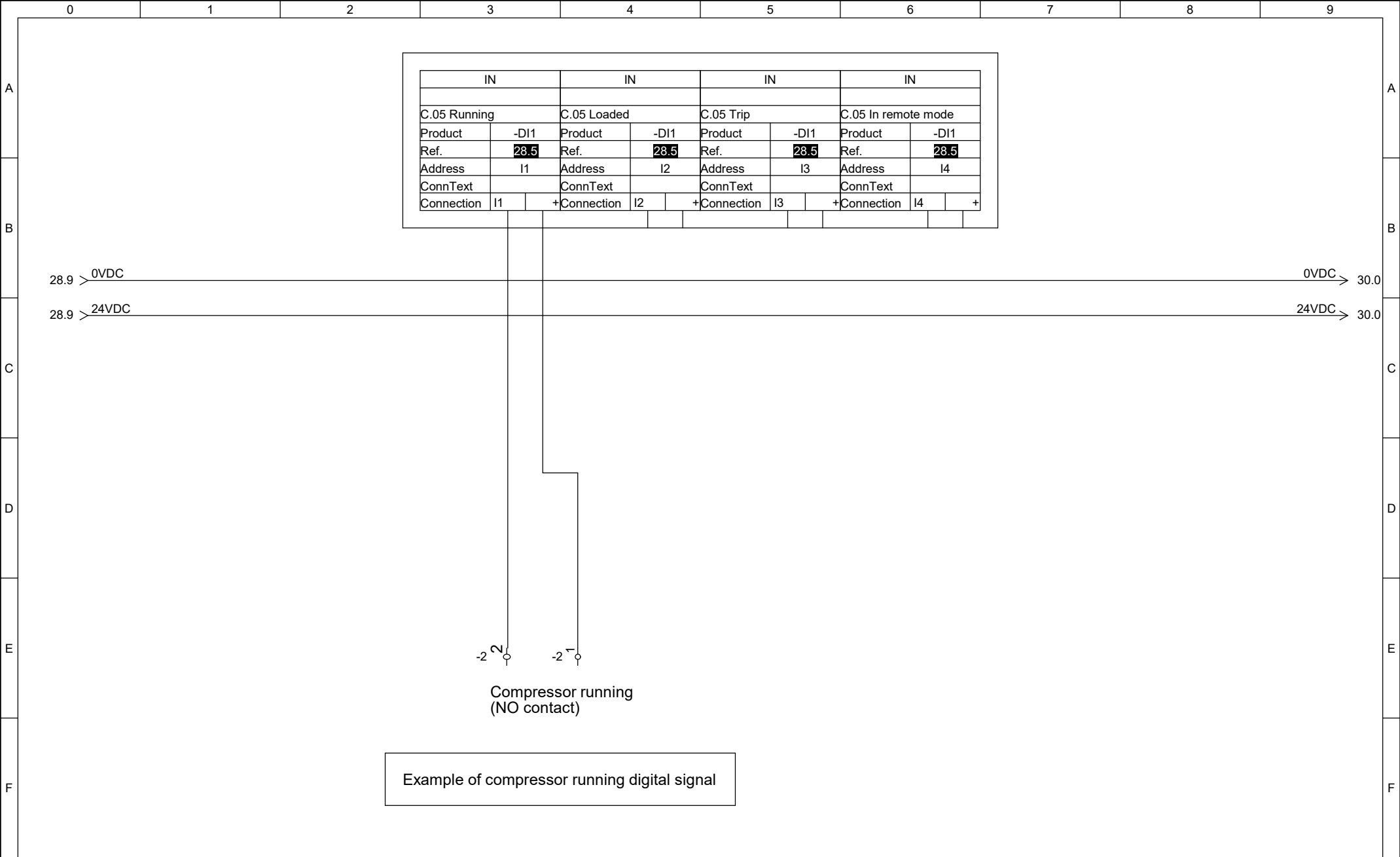
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Product		-AIP1		Product		-AIP1		Product		-AIP1		Product		-AIP1								
Ref.		18.7		Ref.		18.7		Ref.		18.7		Ref.		18.7								
Address		AIP-L1		Address		AIP-L2		Address		AIP-L3		Address		AIP1-IN								
ConnText				ConnText				ConnText				ConnText										
Connection		IL1	IL1'	L1	Connection		IL2	IL2'	L2	Connection		IL3	IL3'	L3	Connection		IN	IN'	Connection		N	N

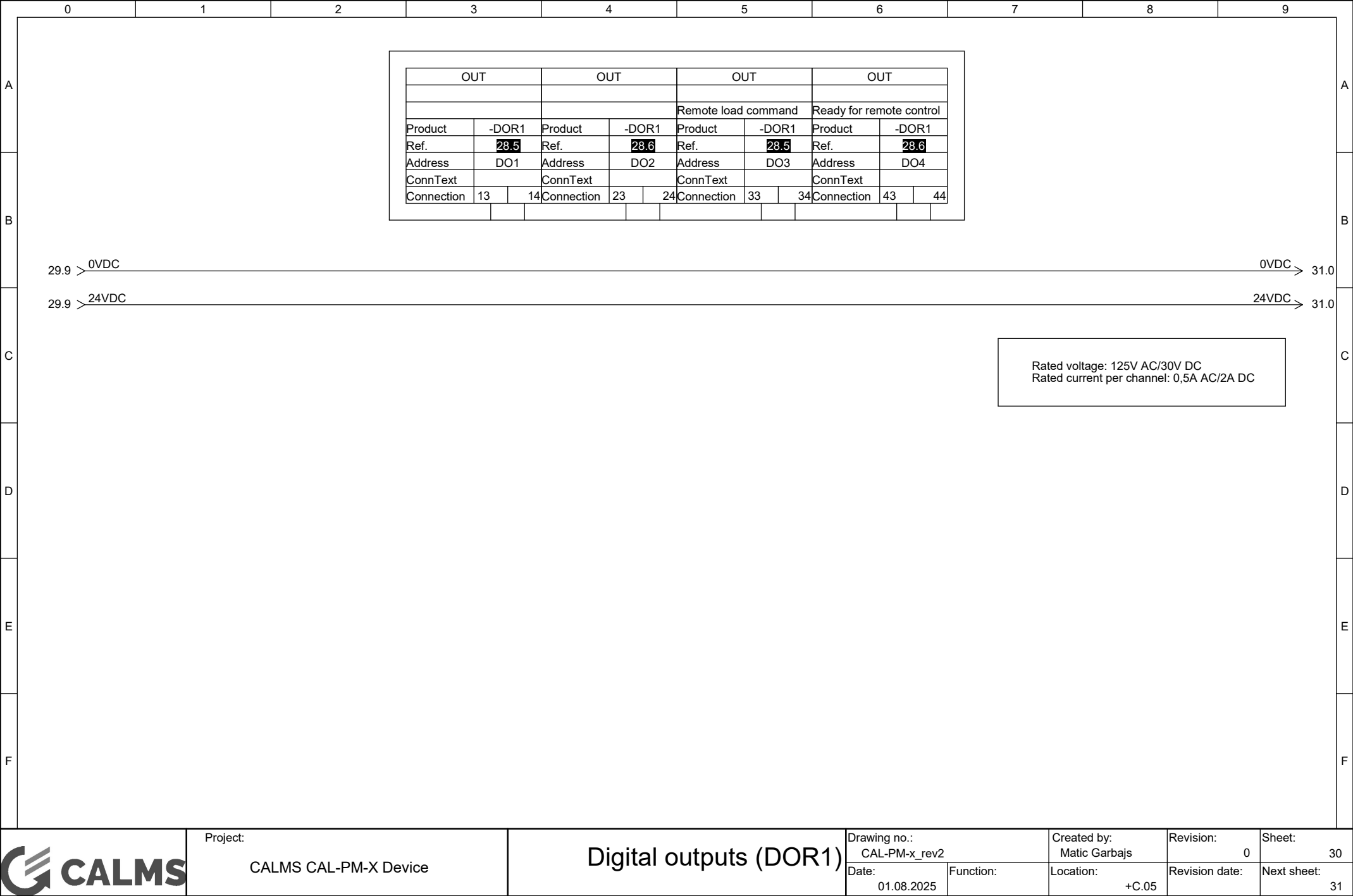


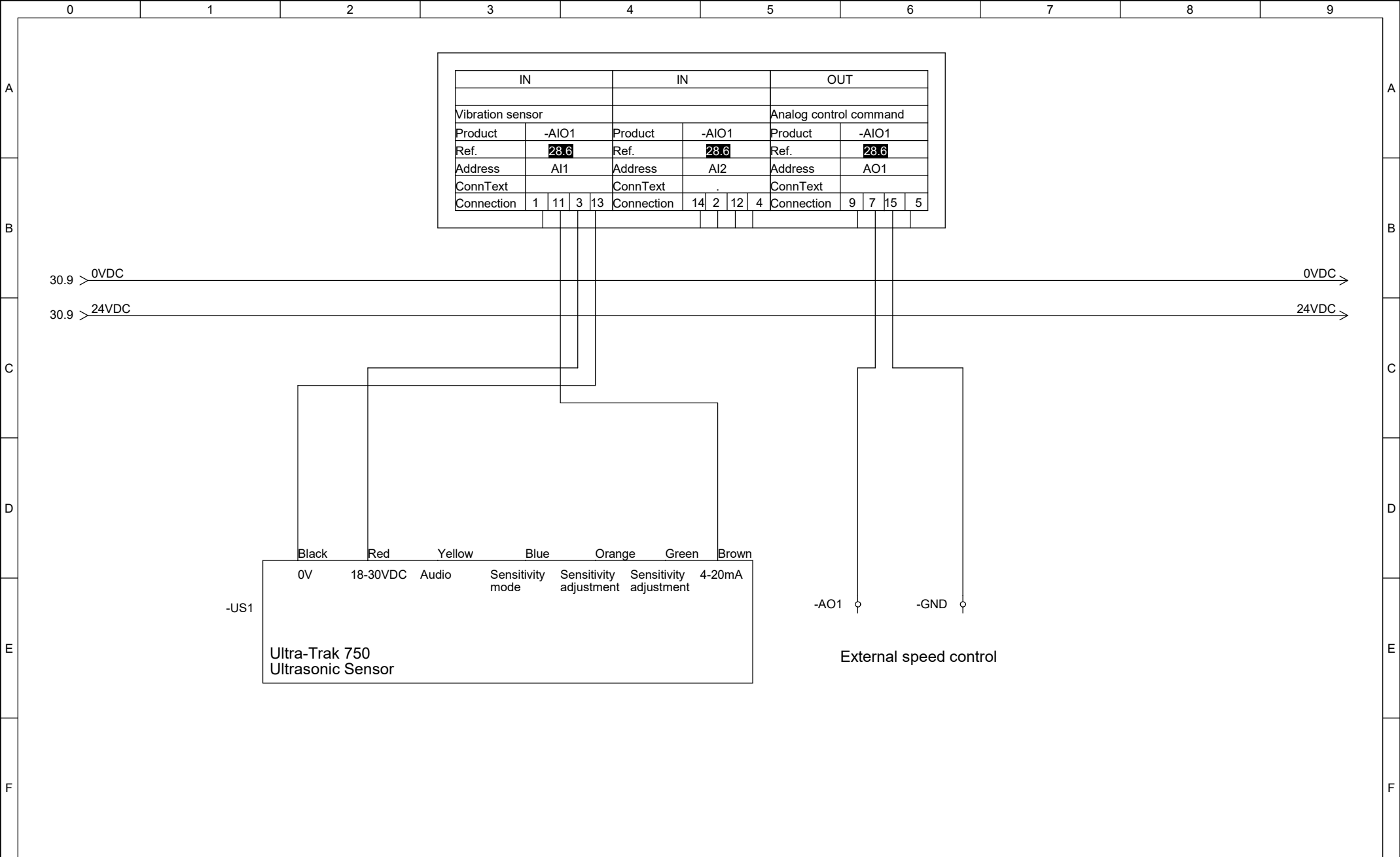


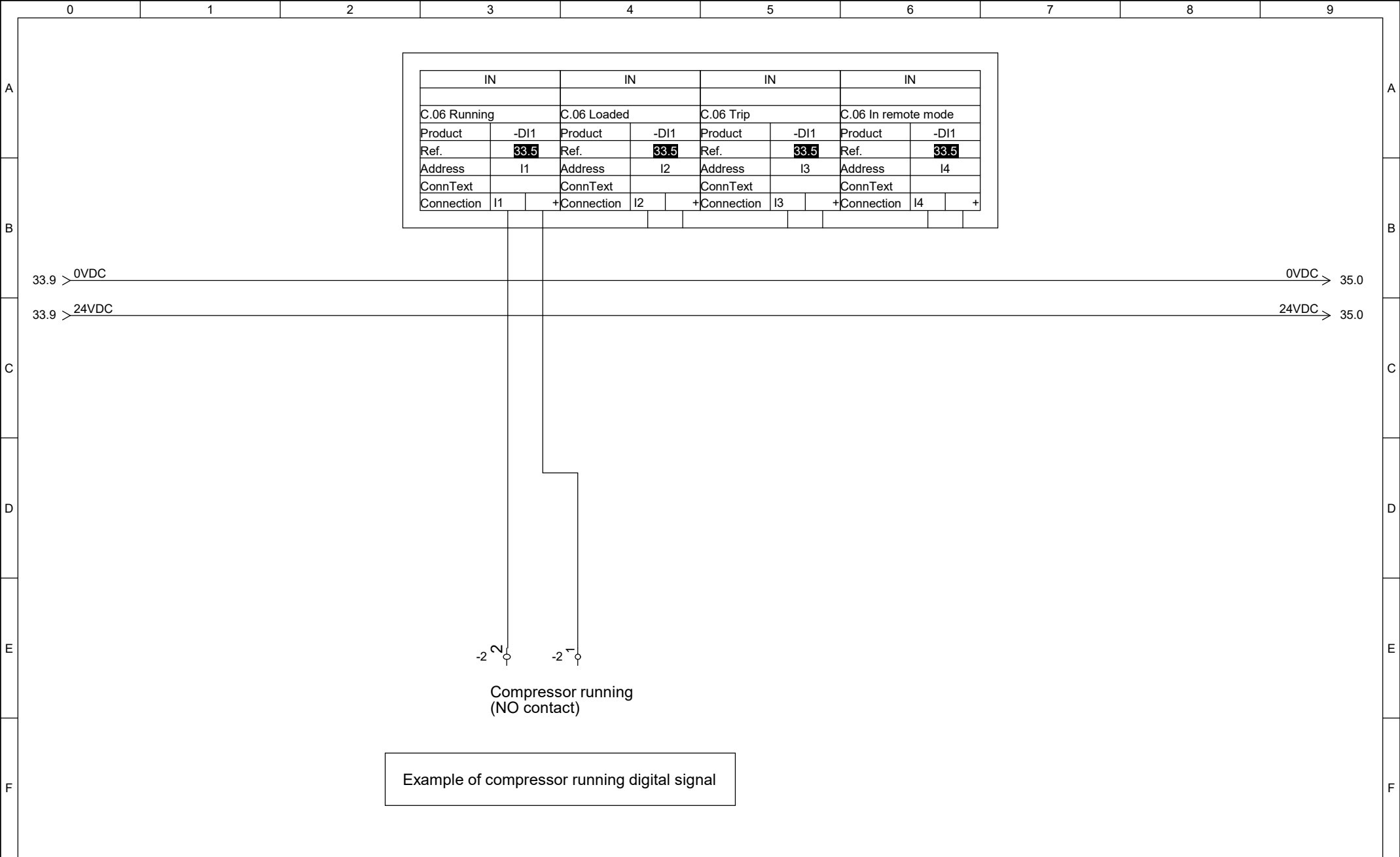


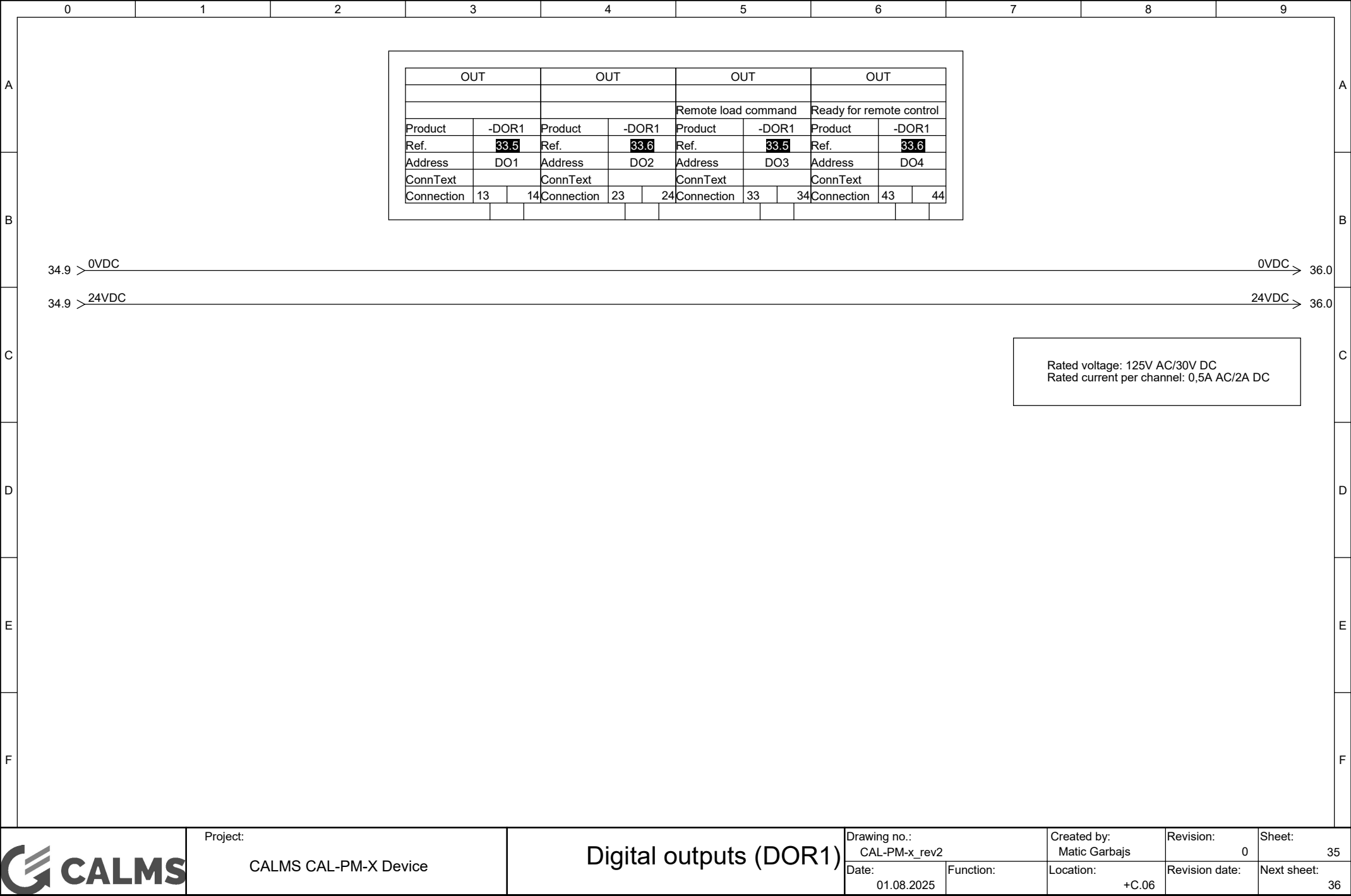


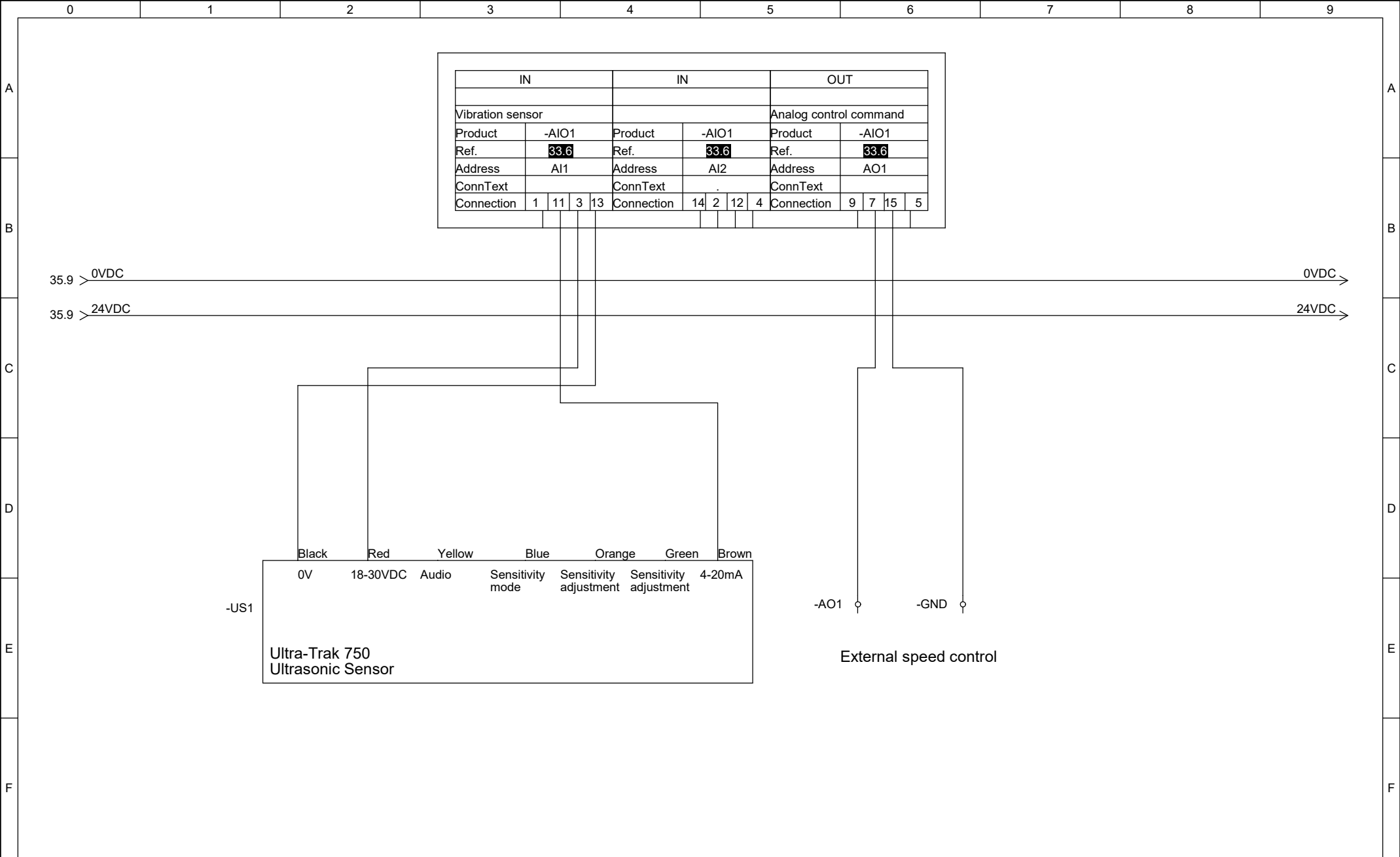


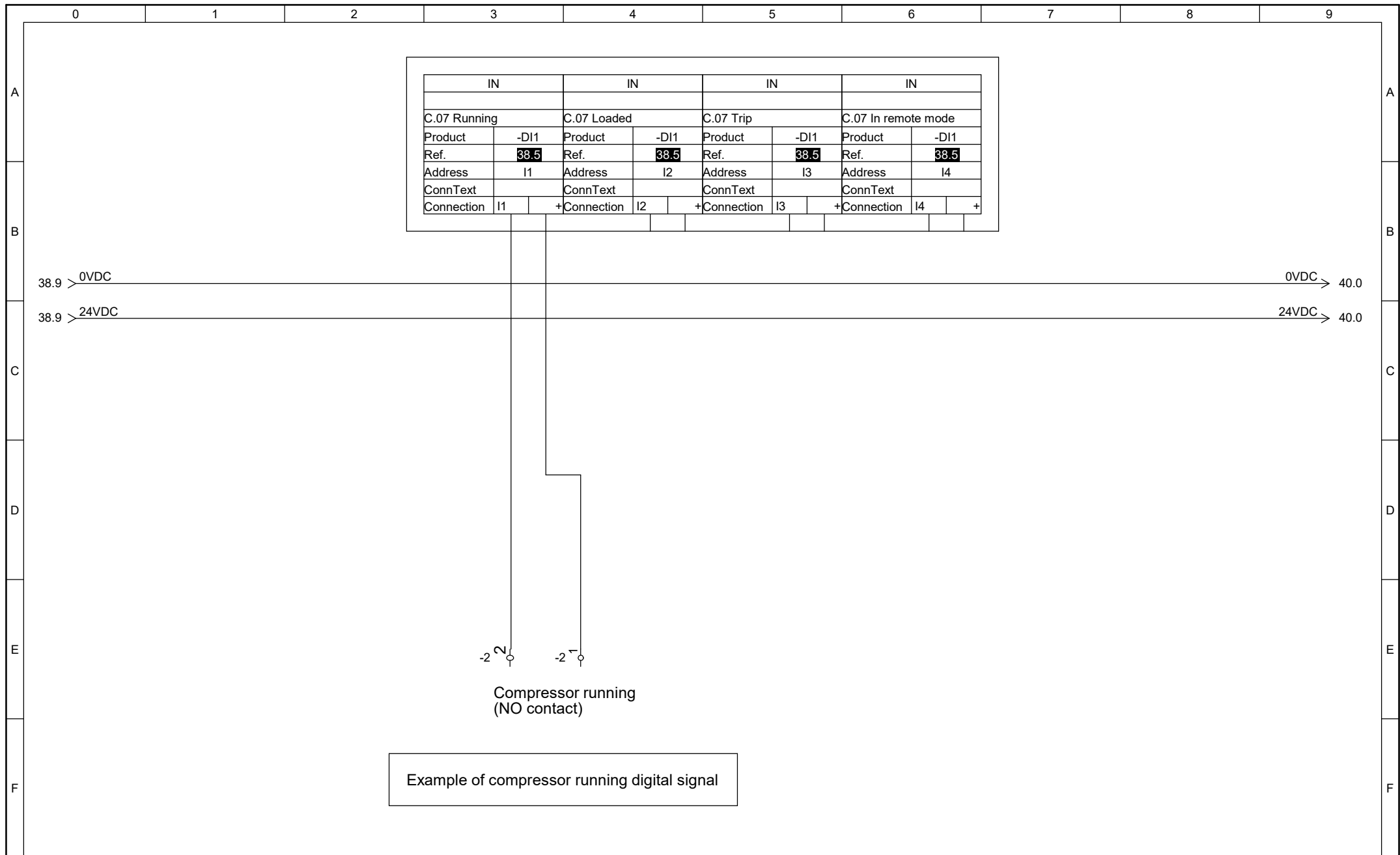


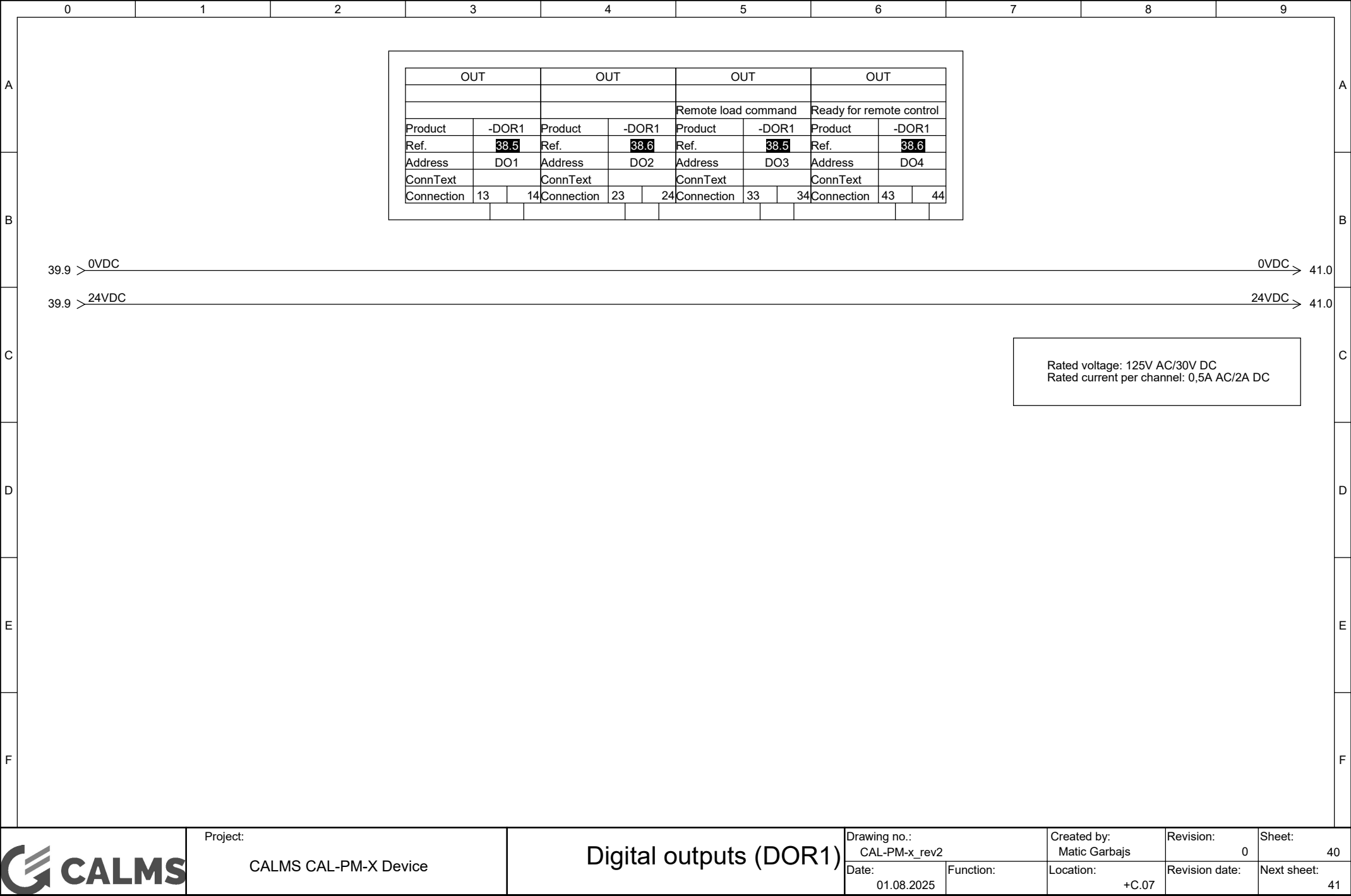


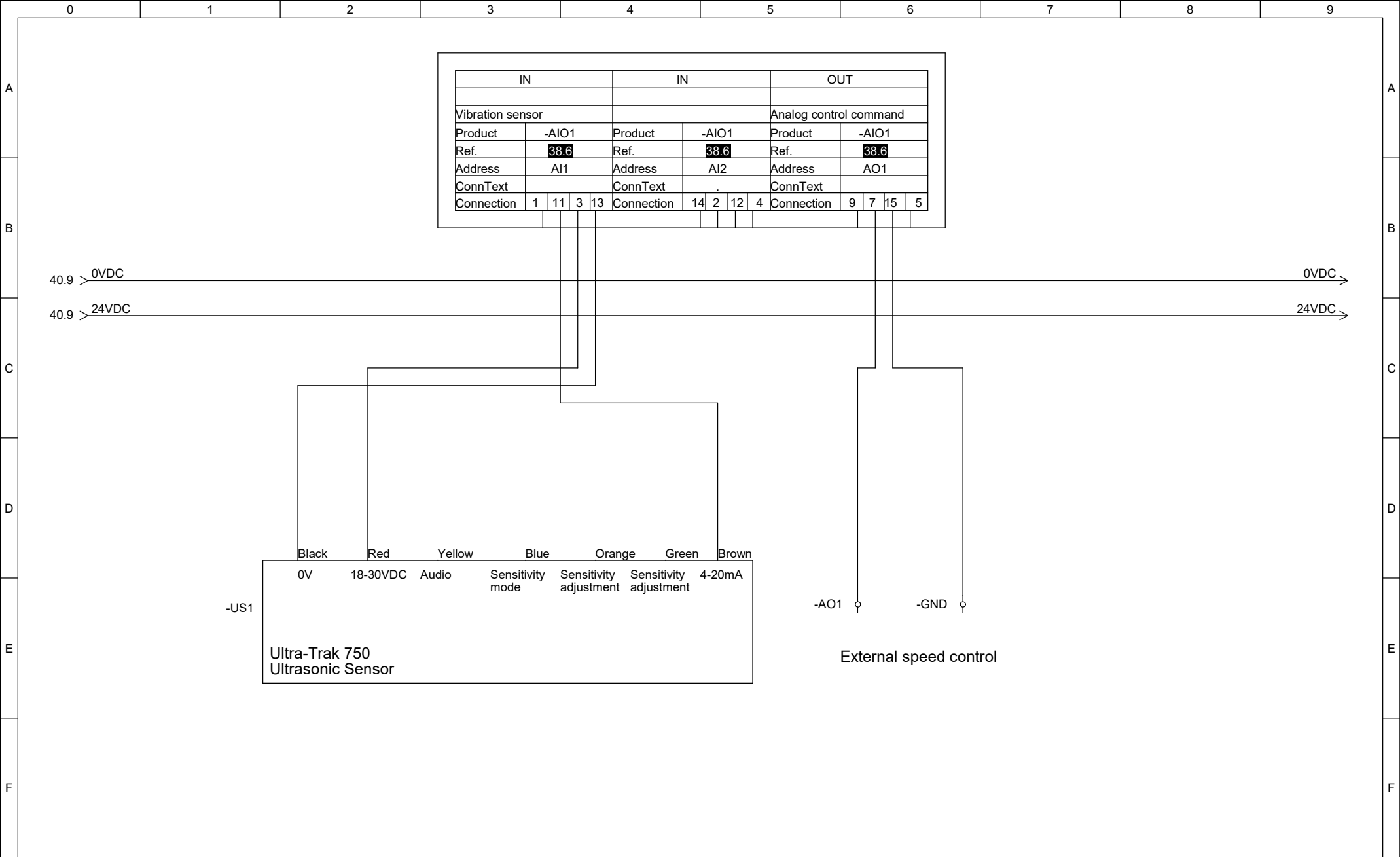


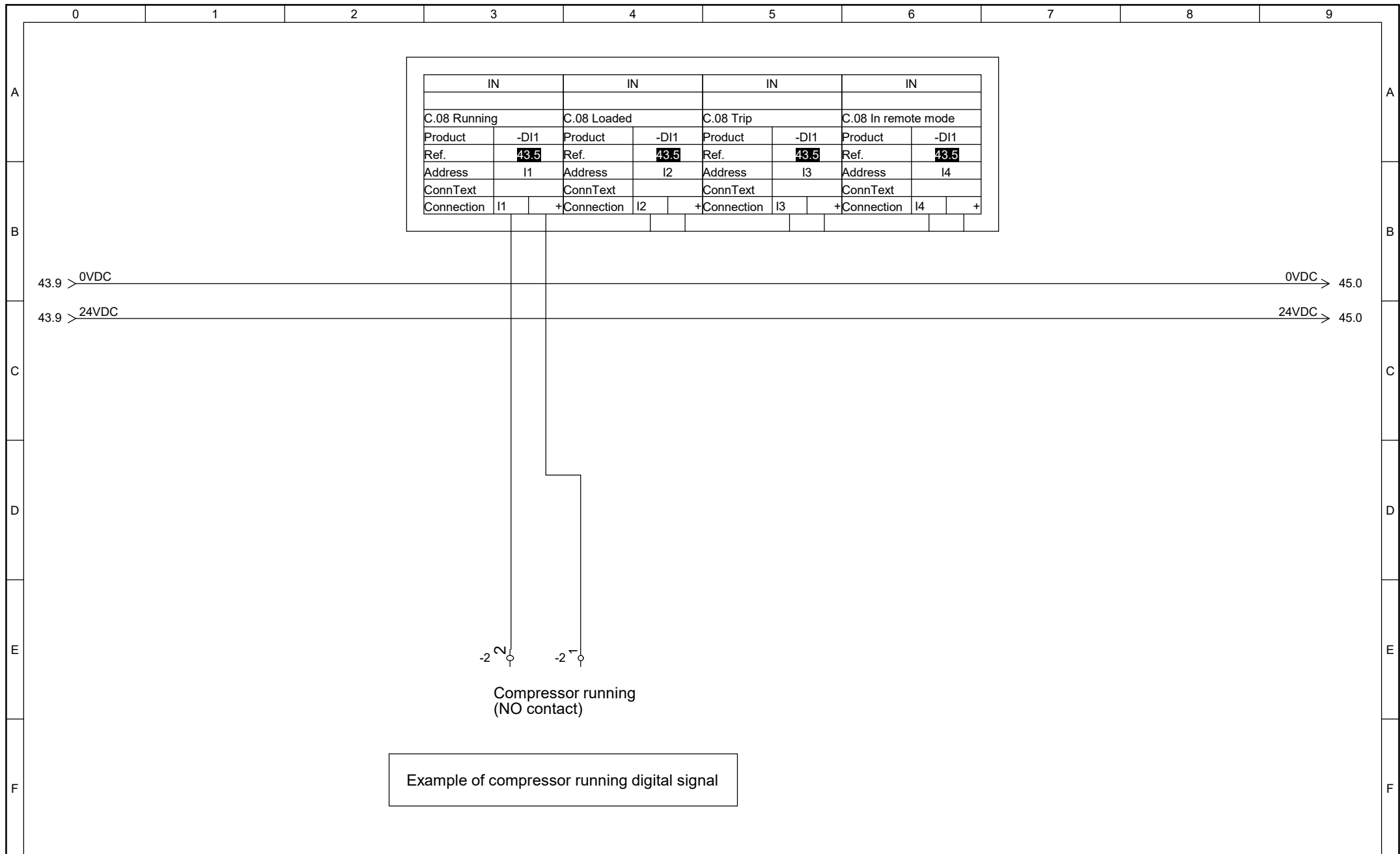


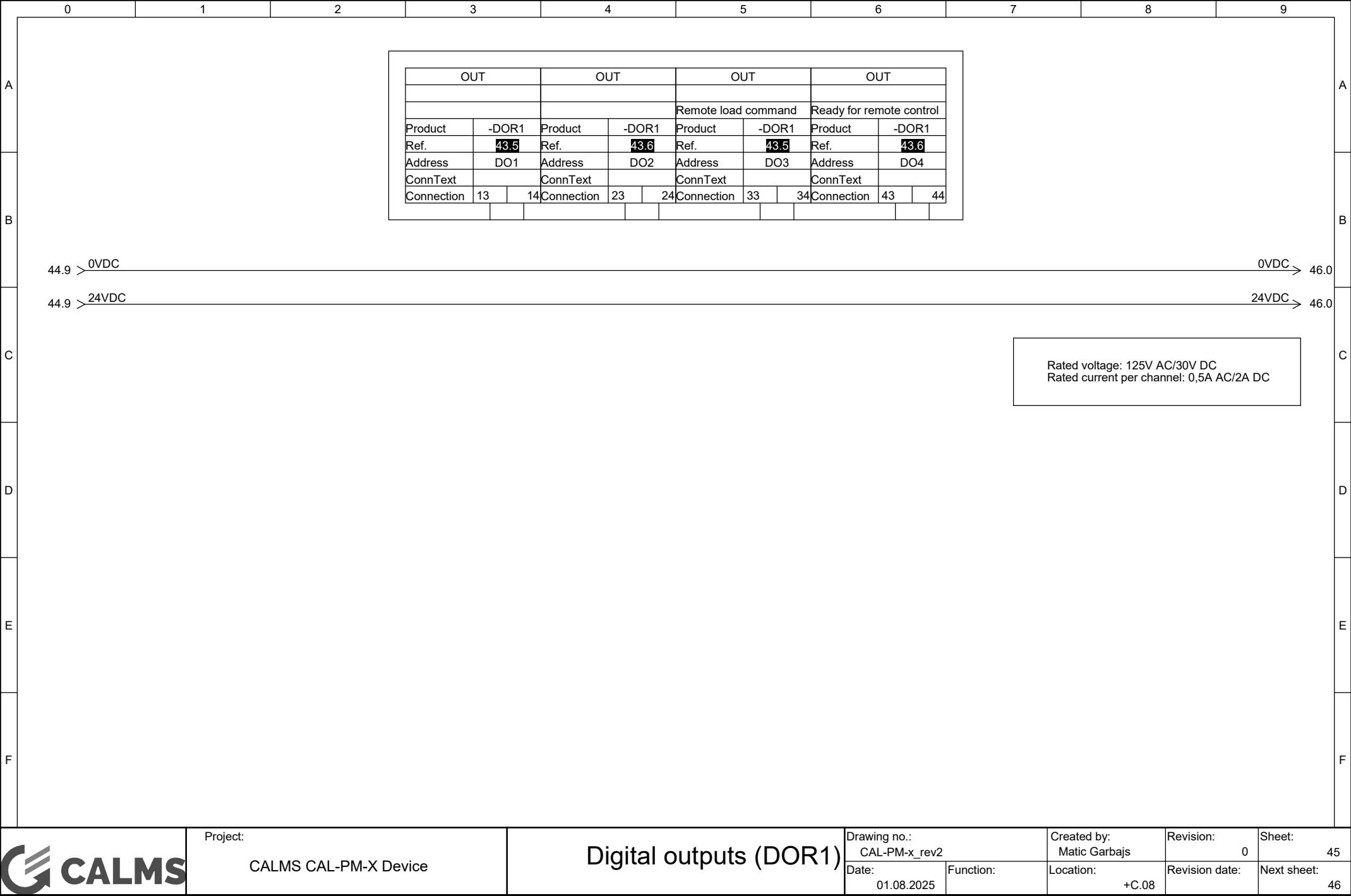


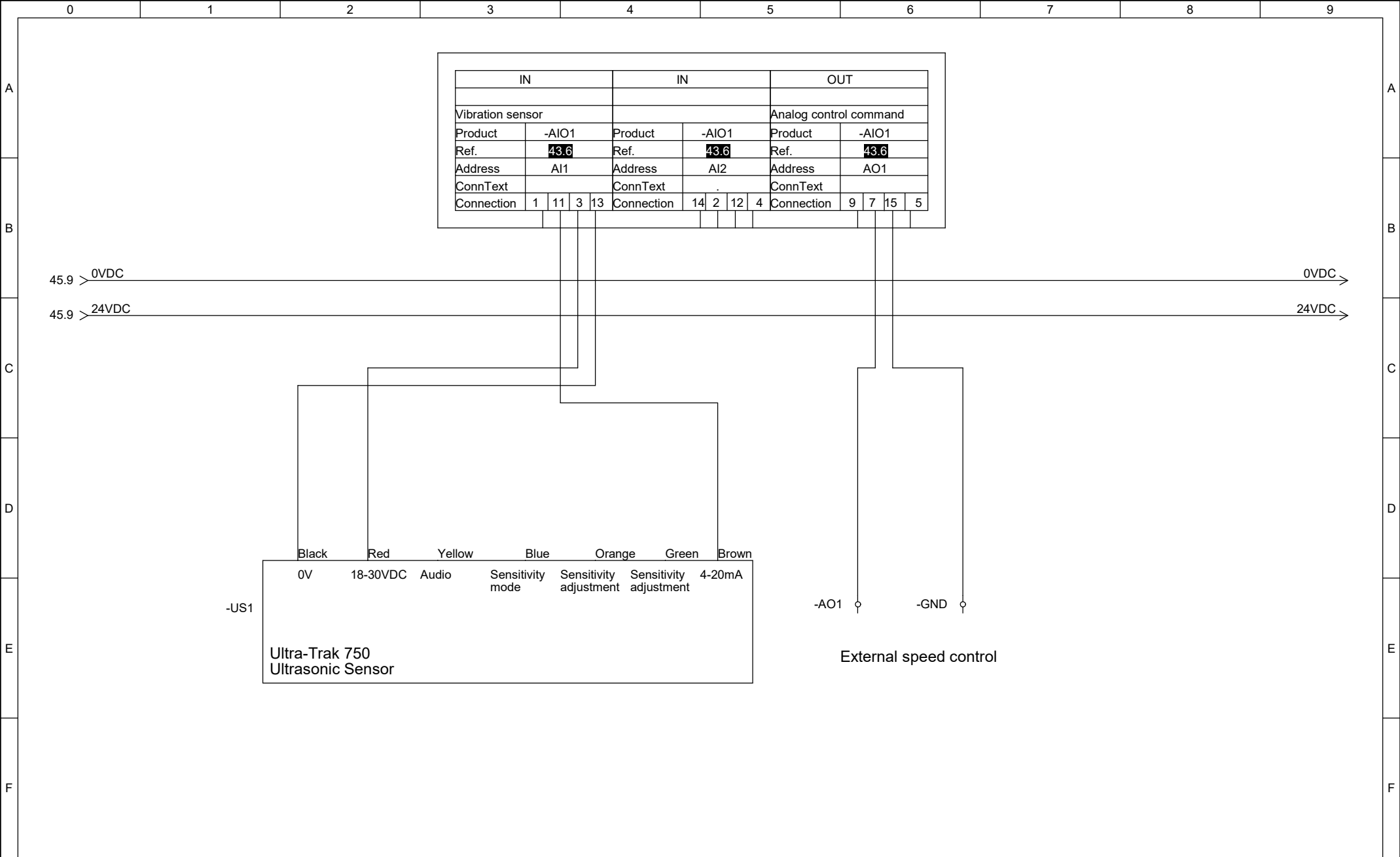


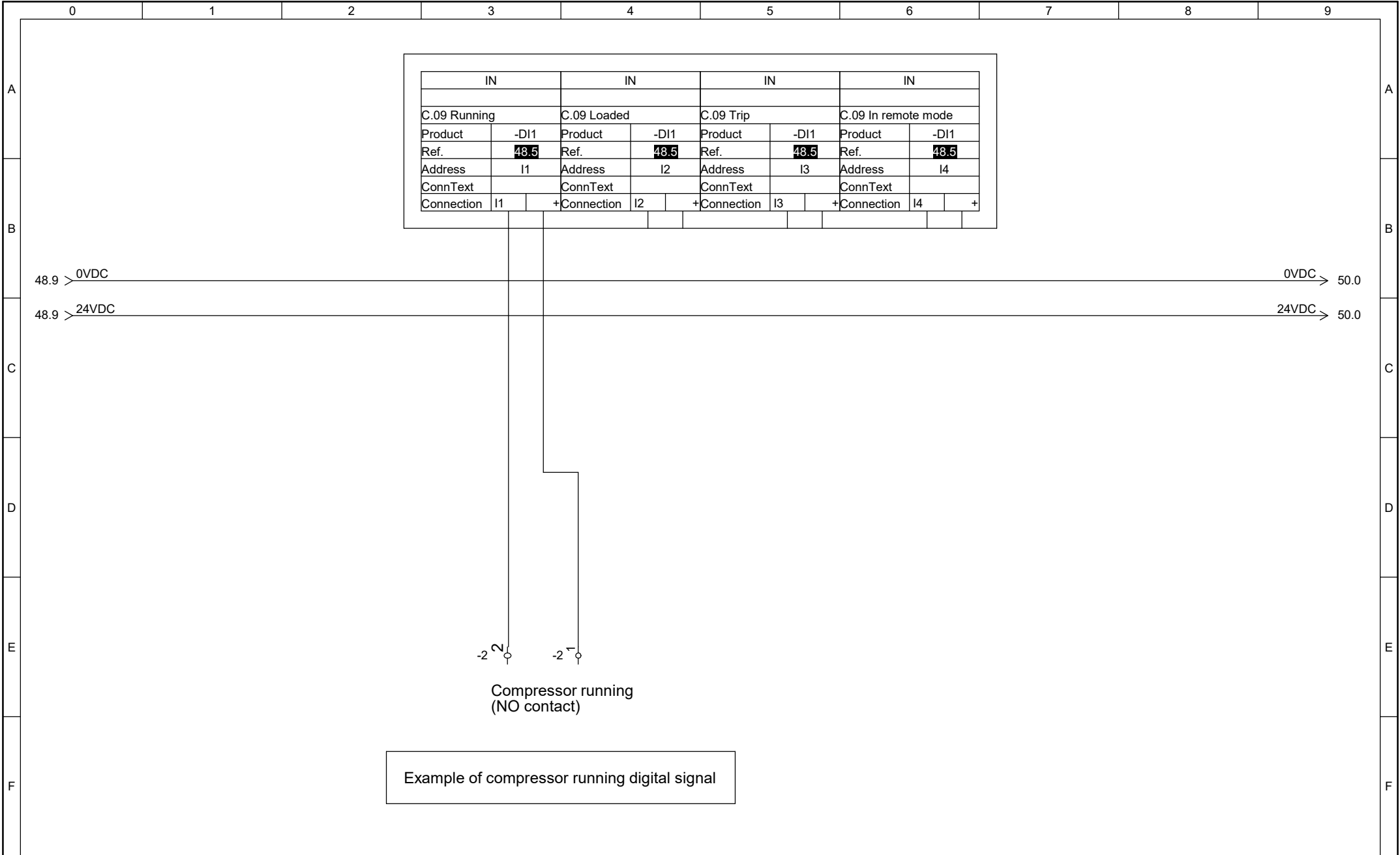


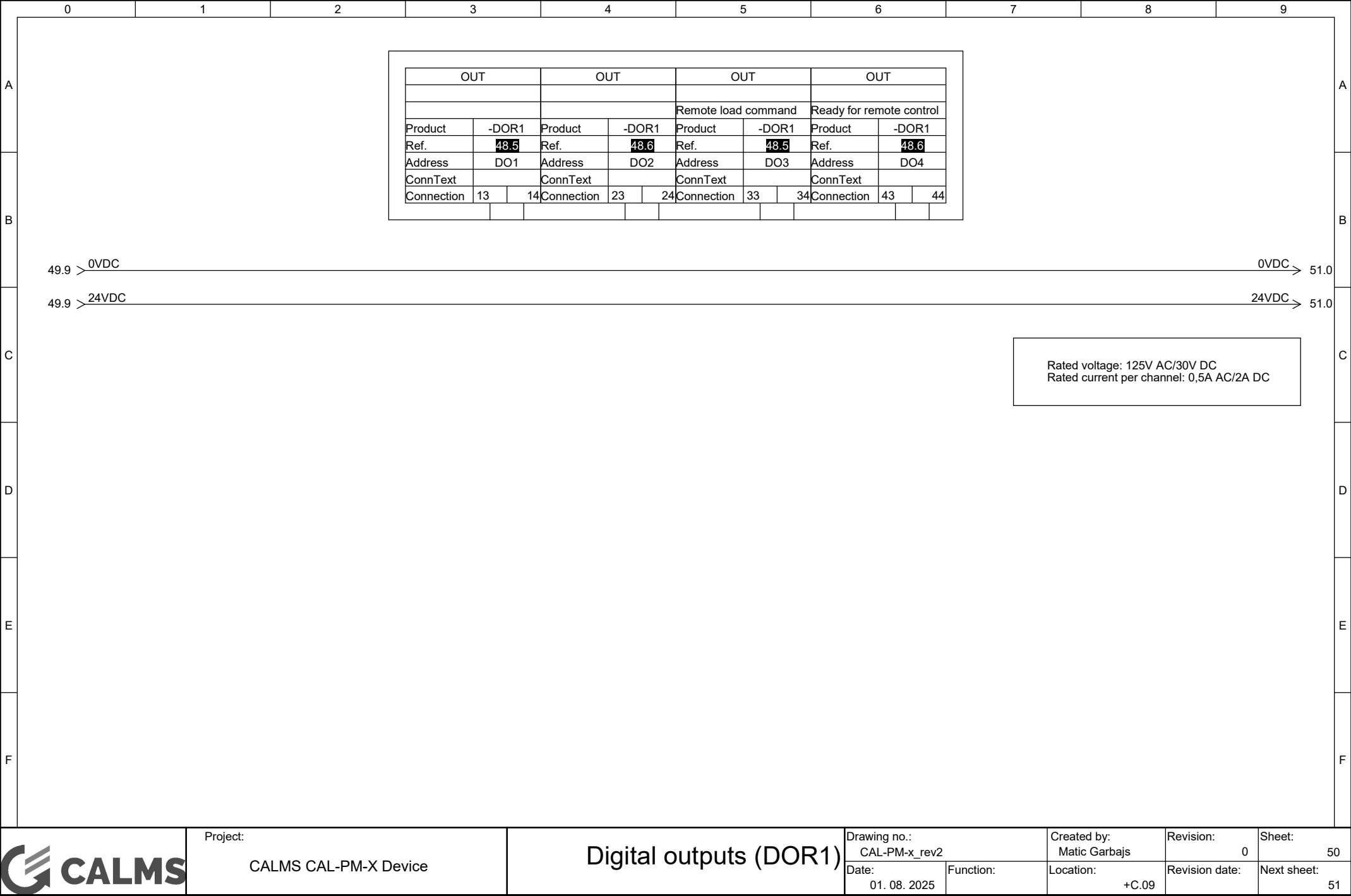


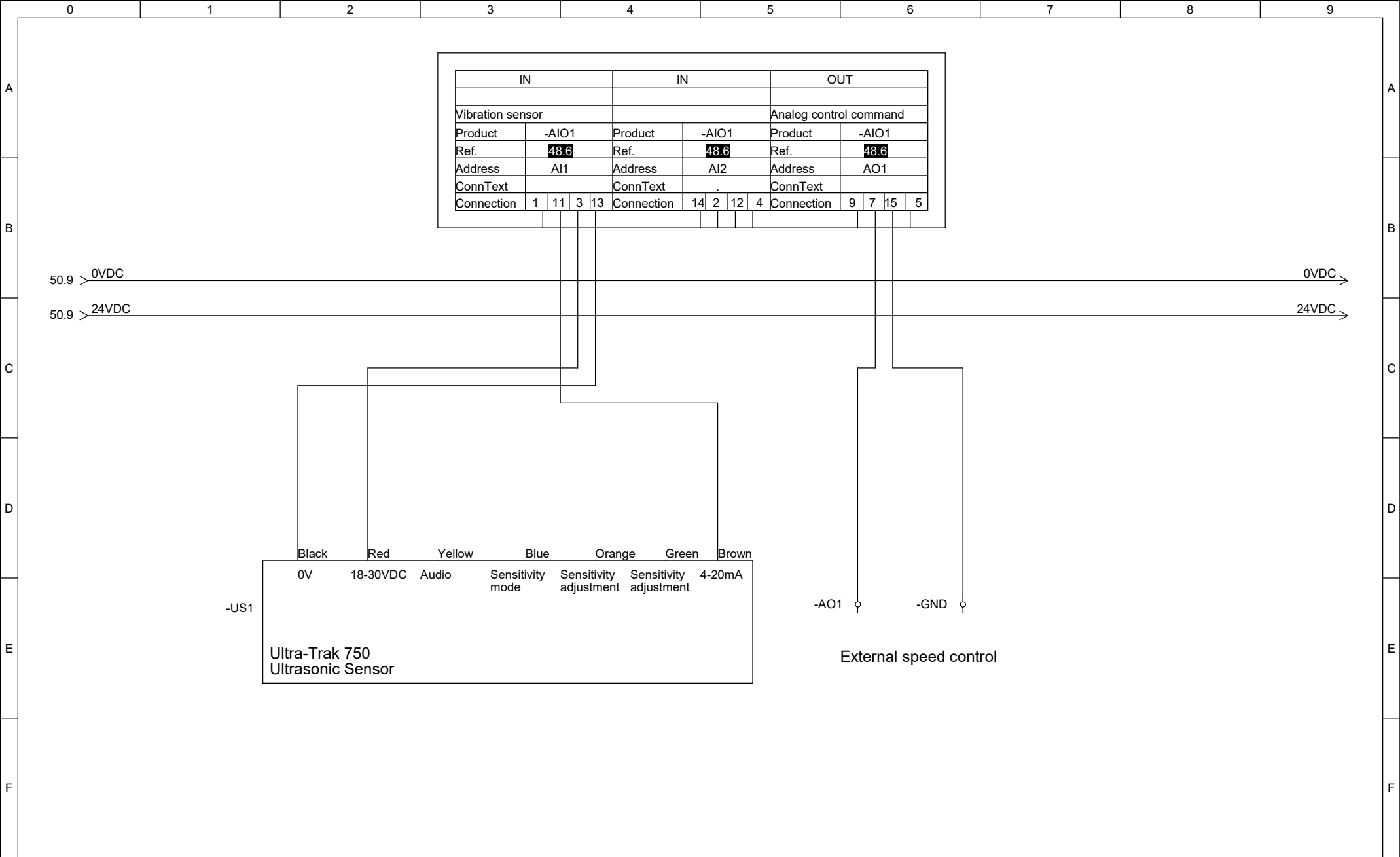


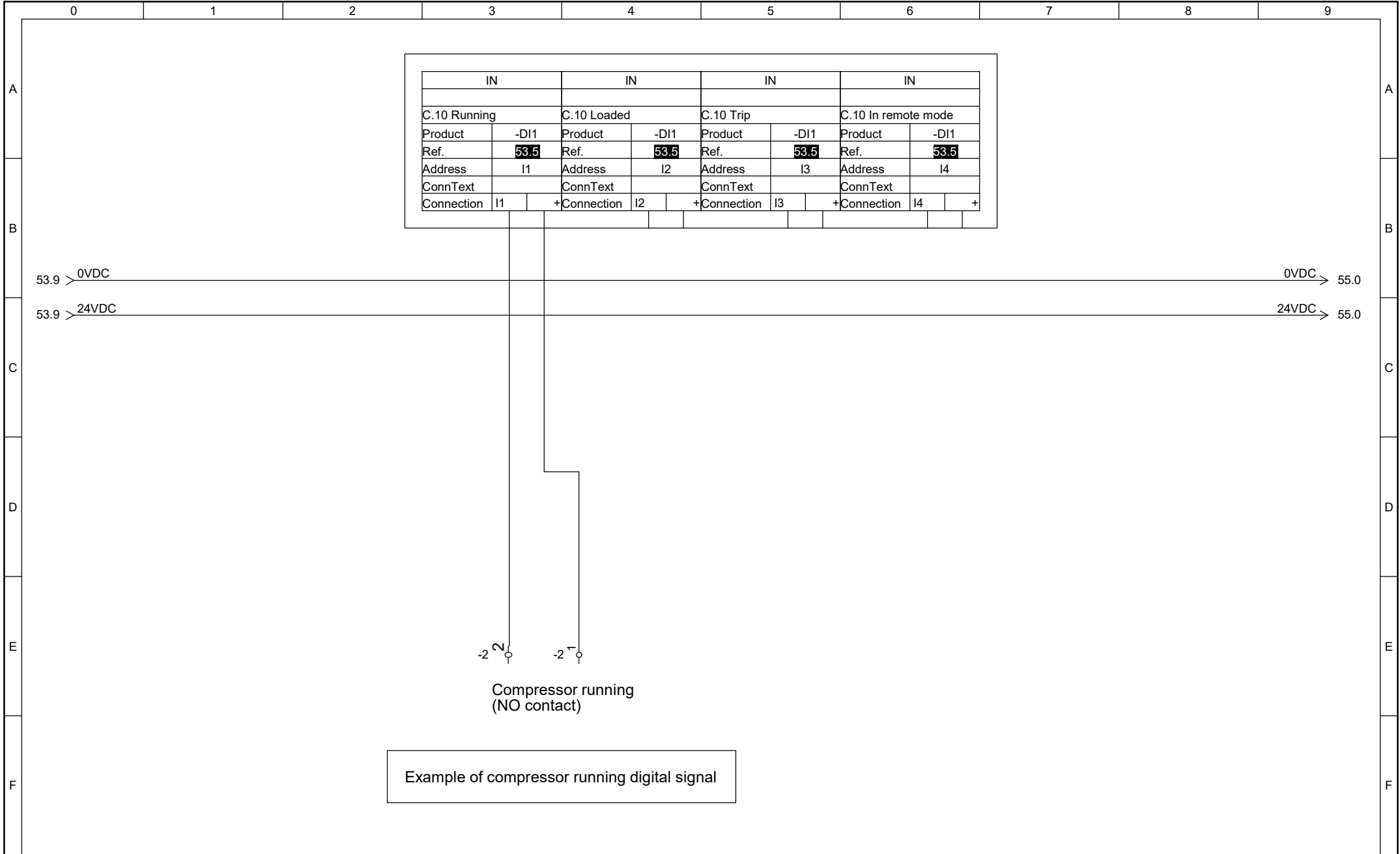


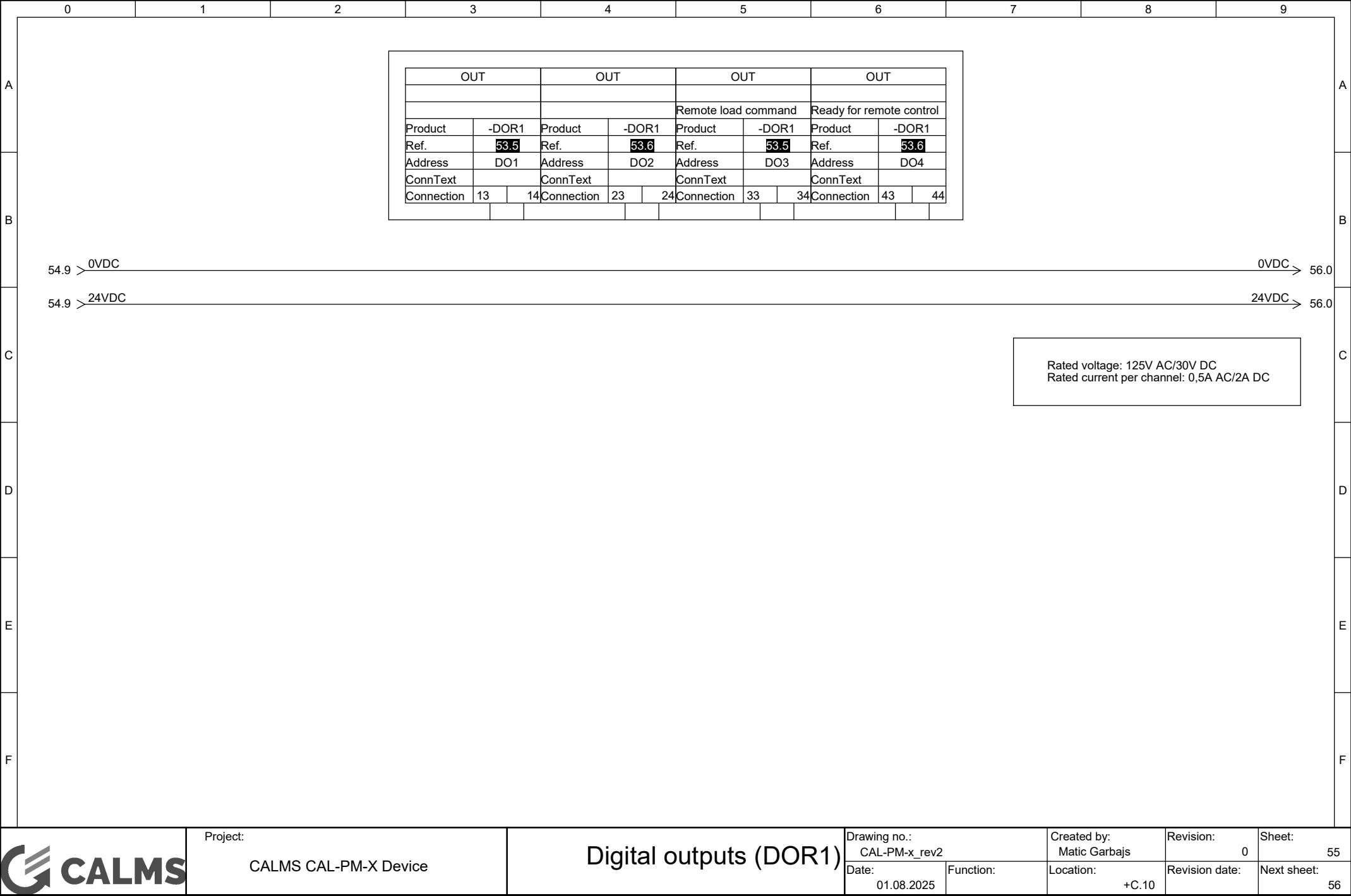


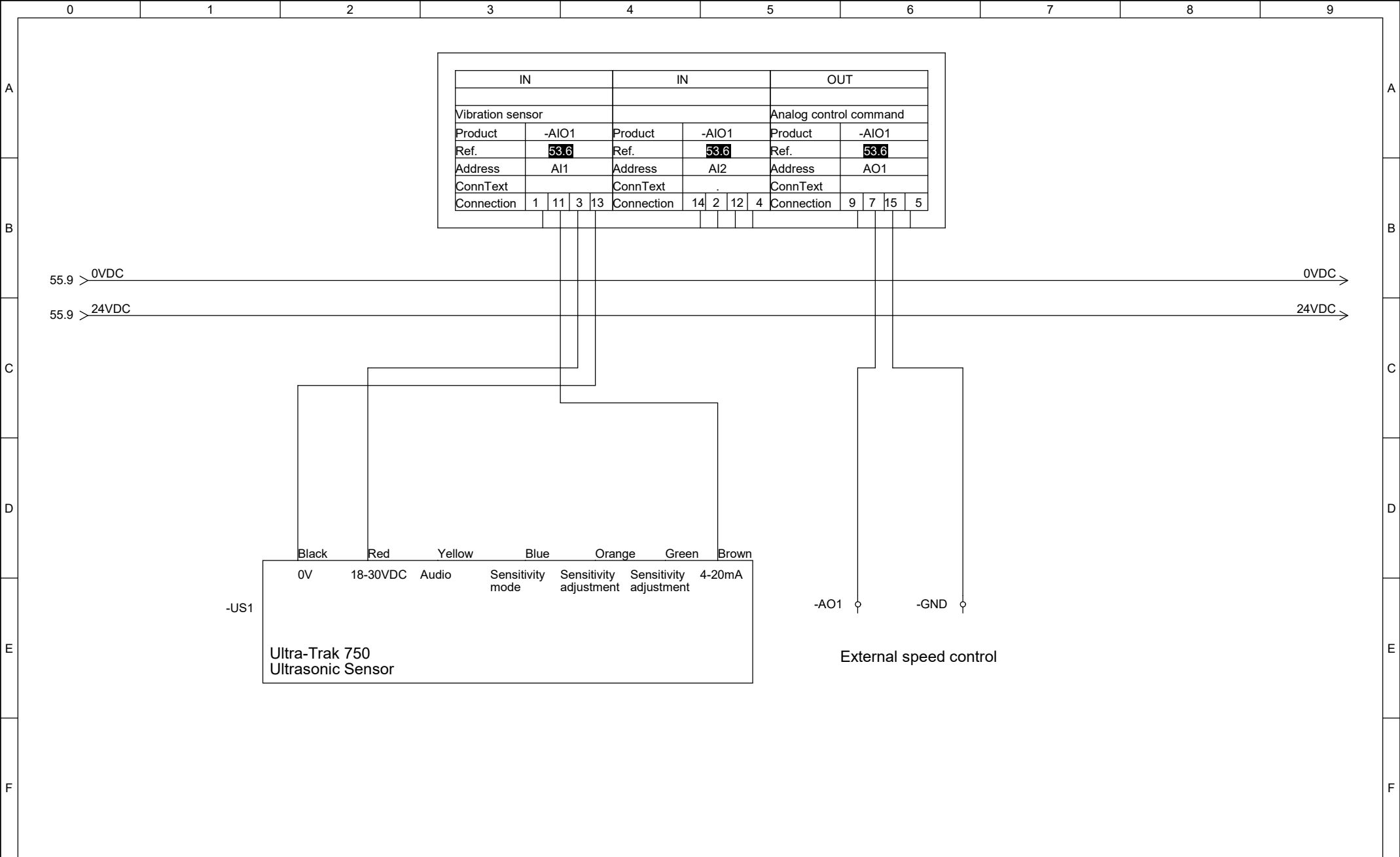


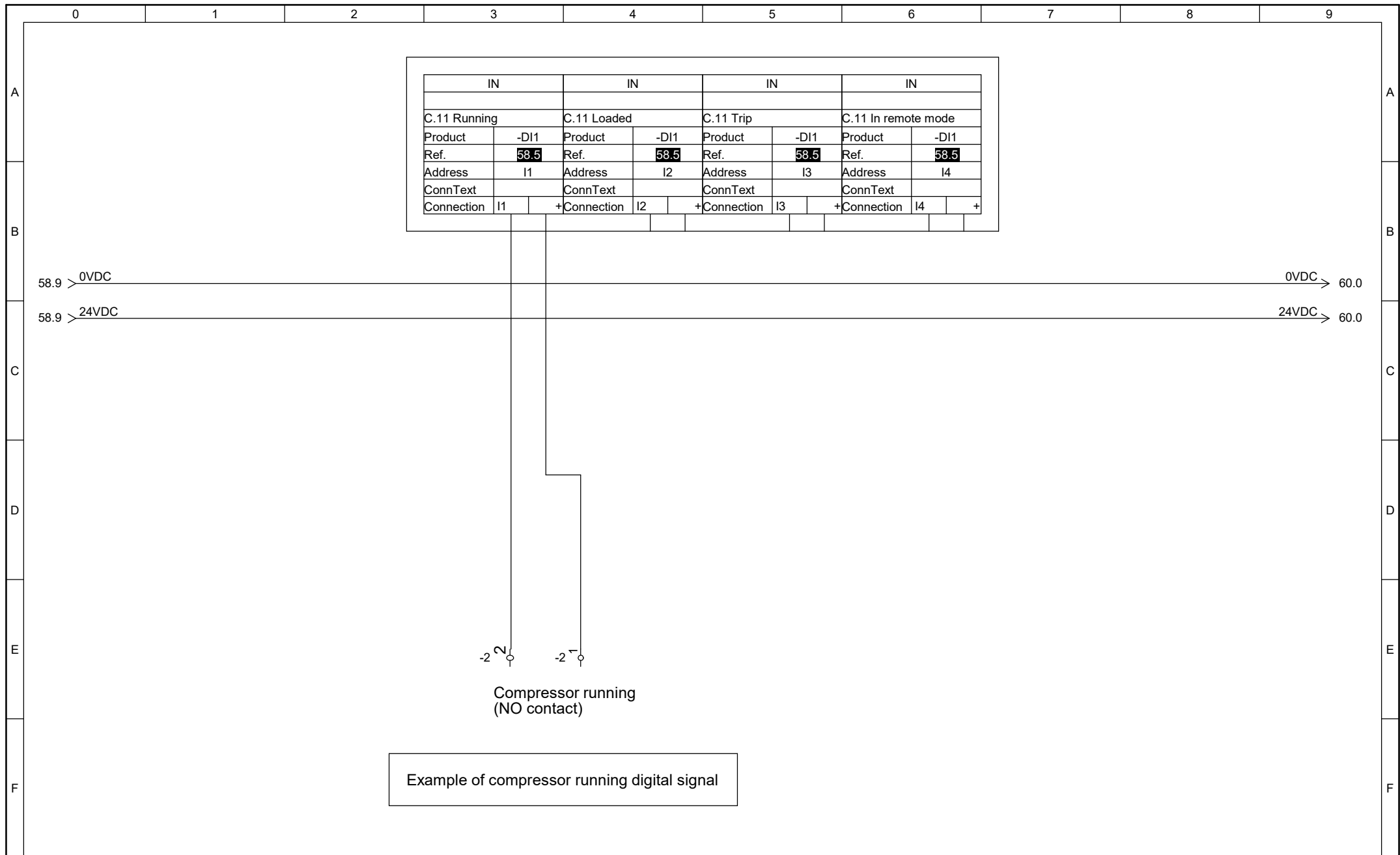


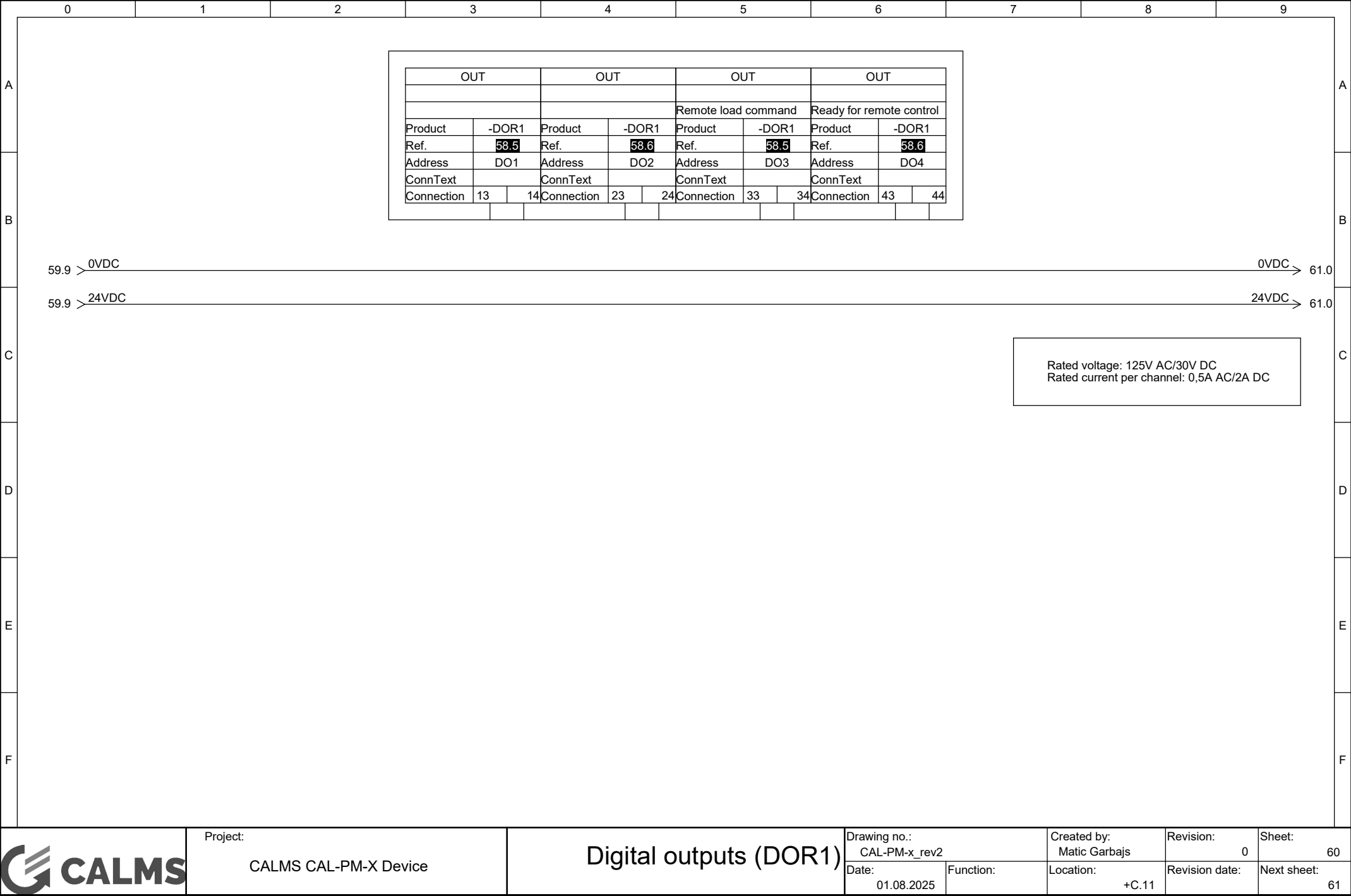


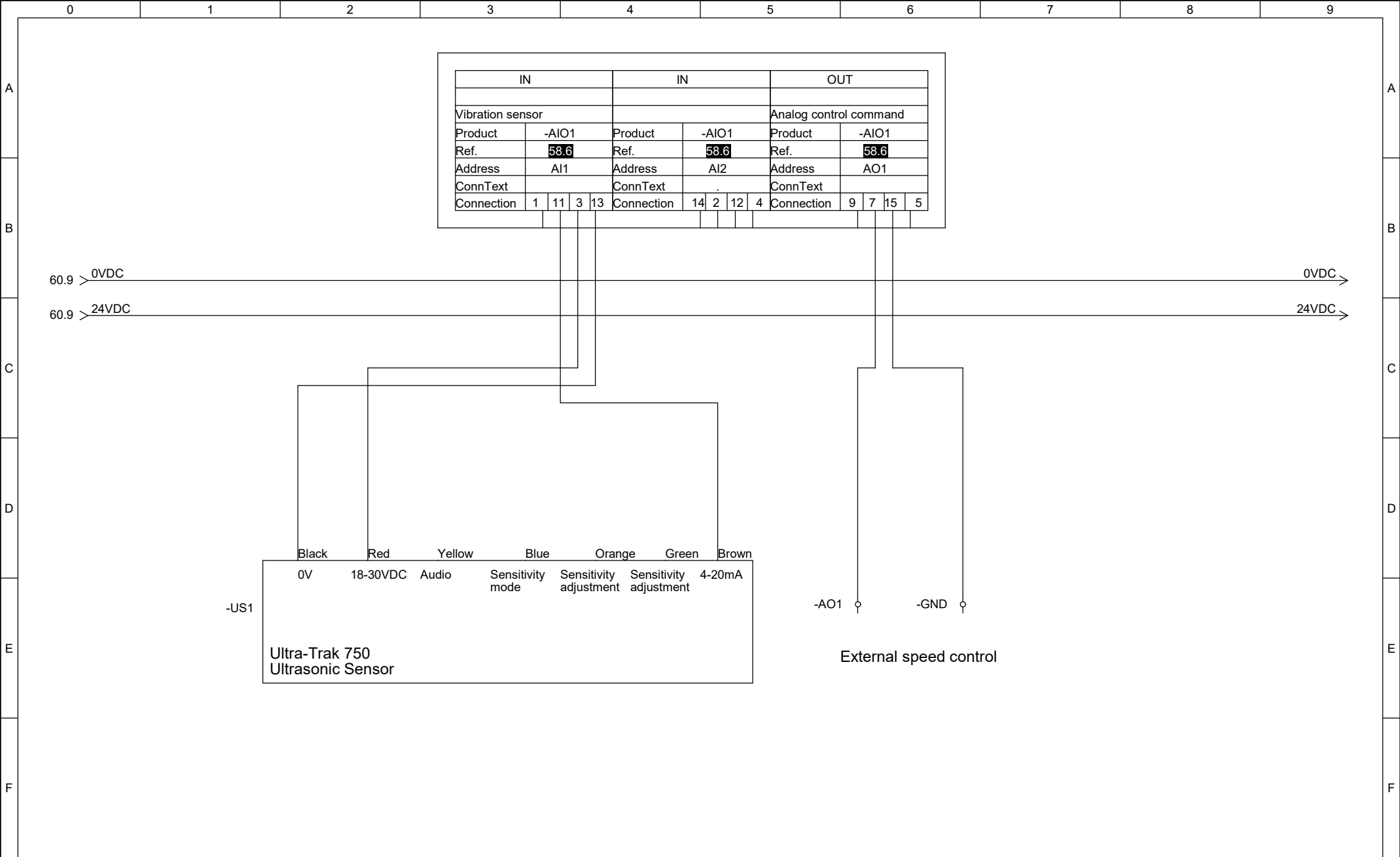


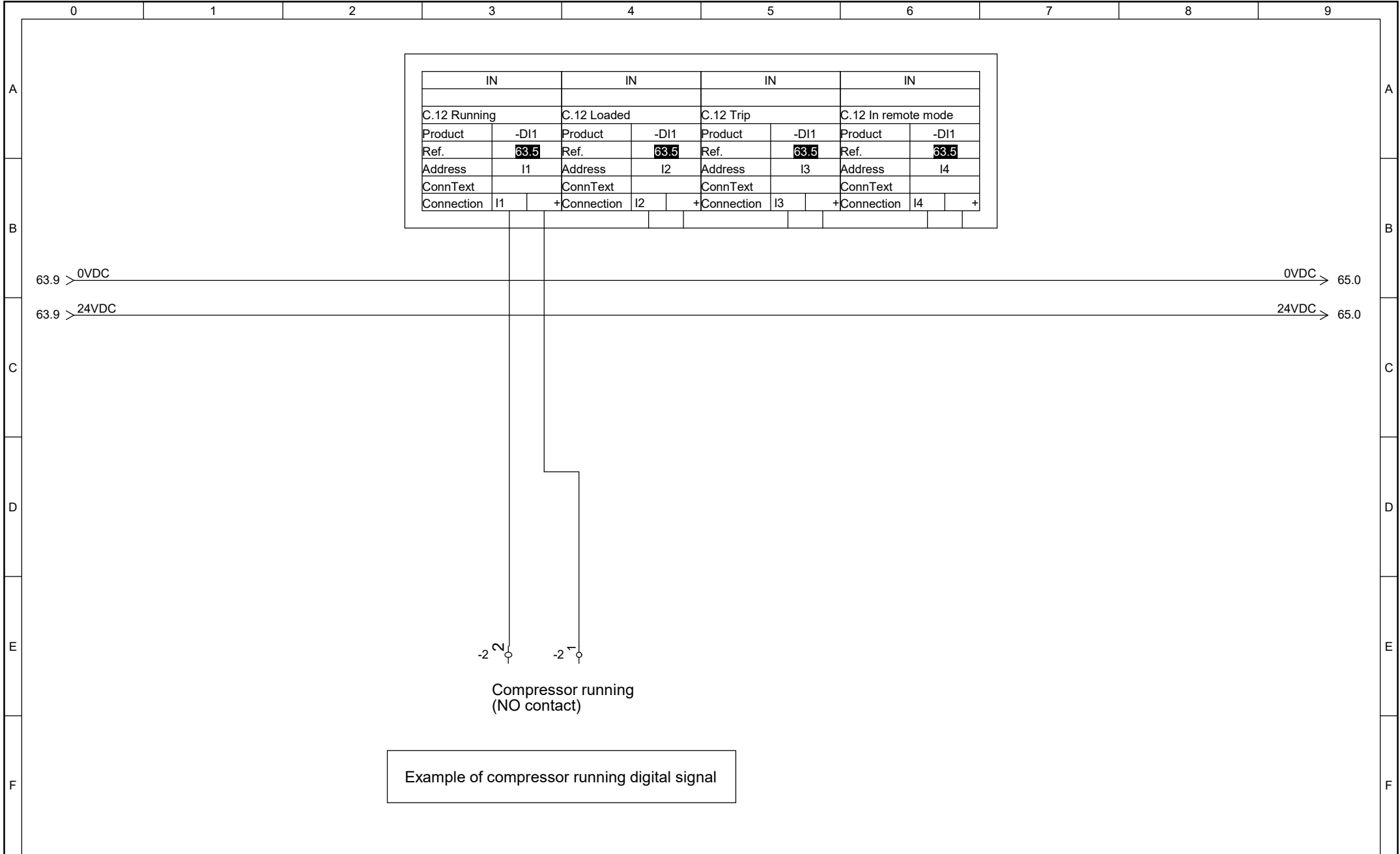


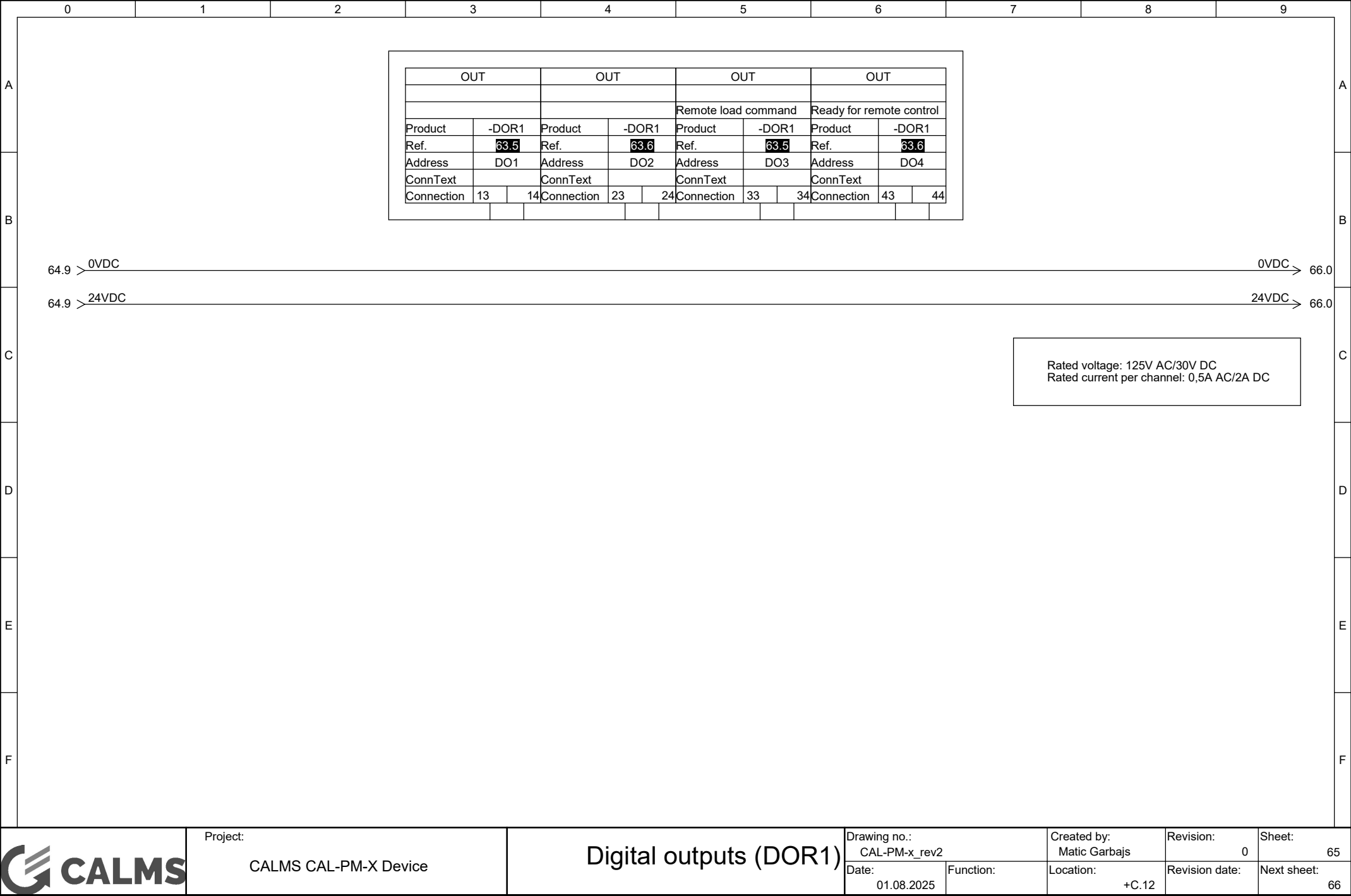


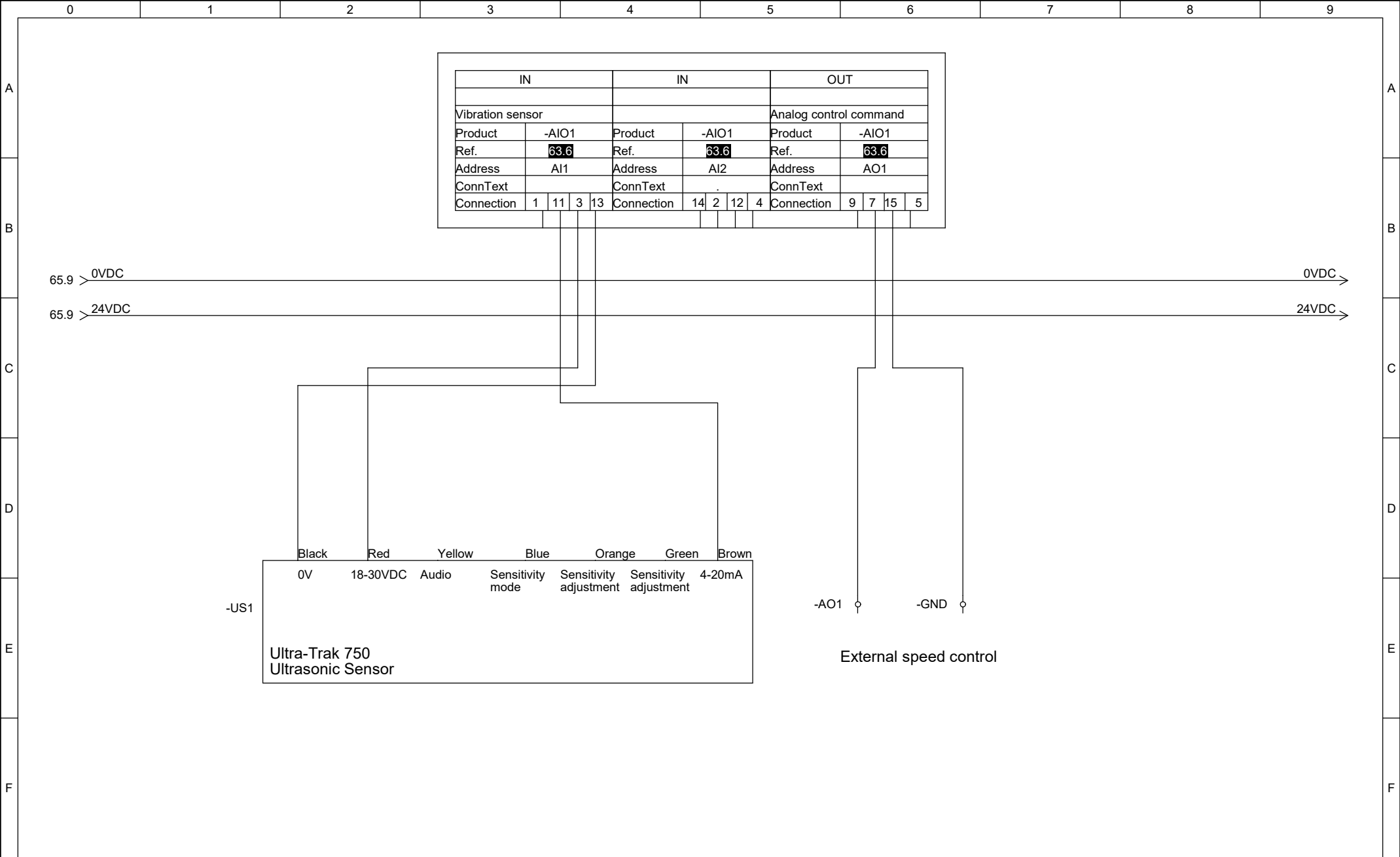


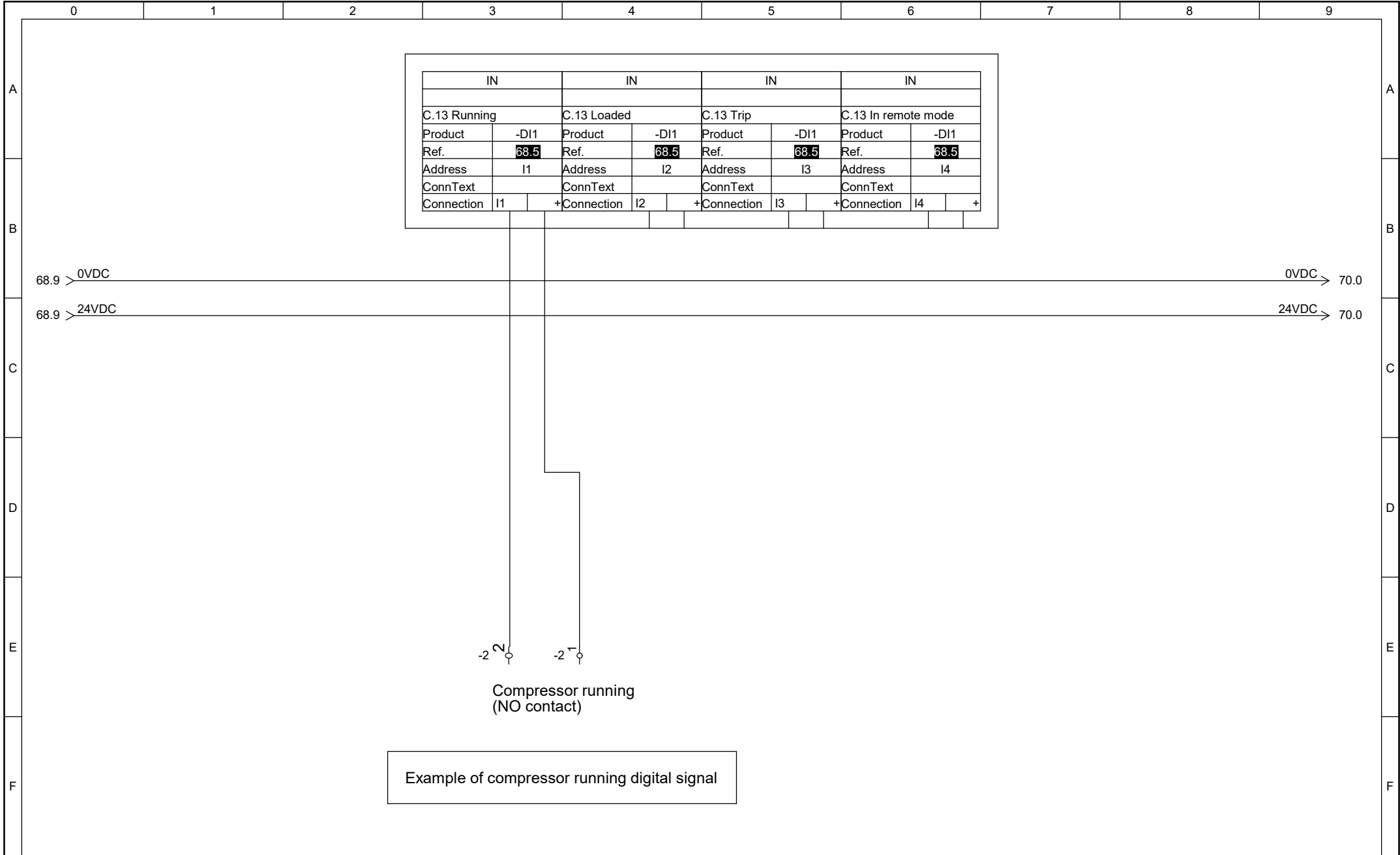


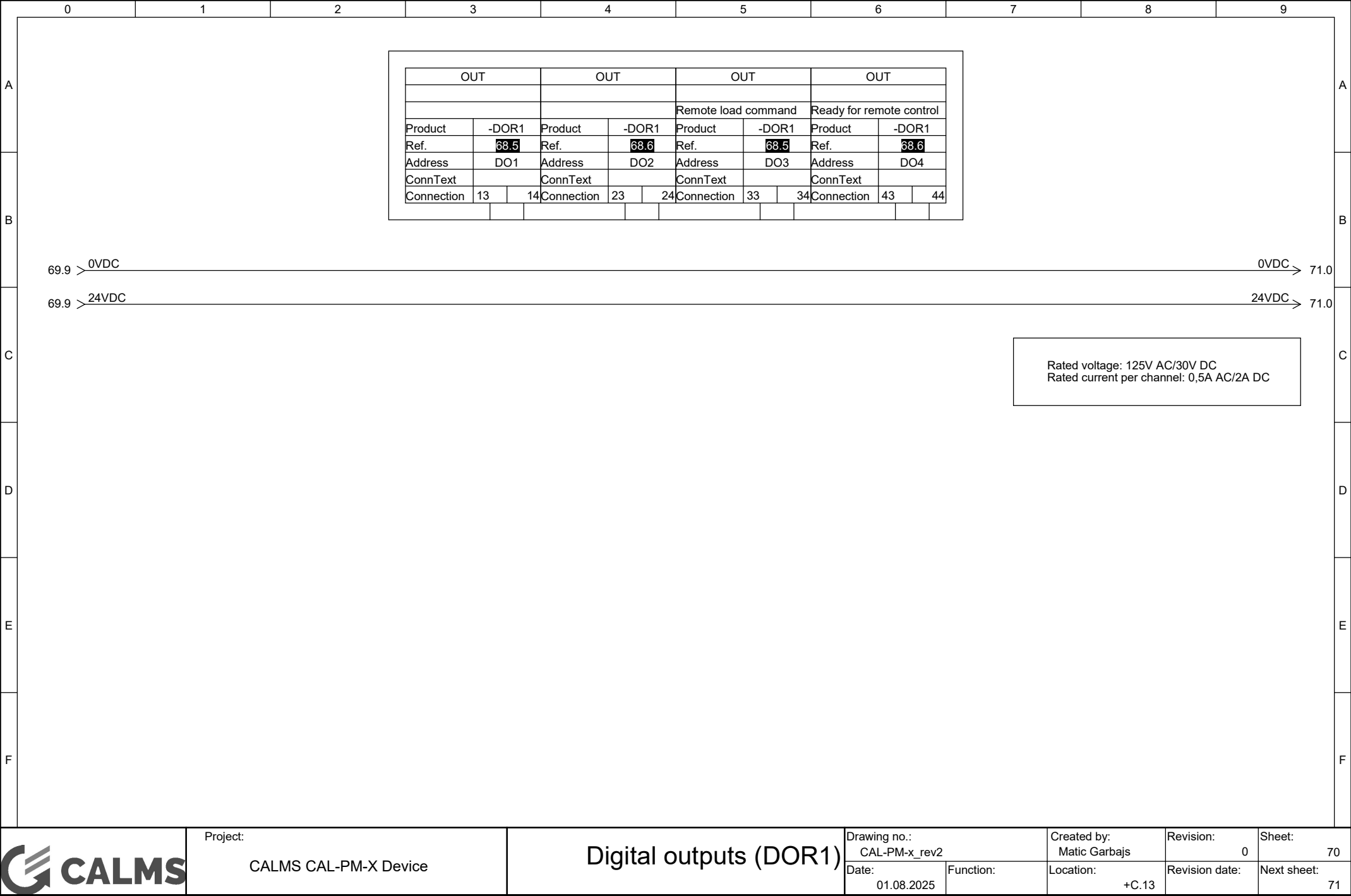


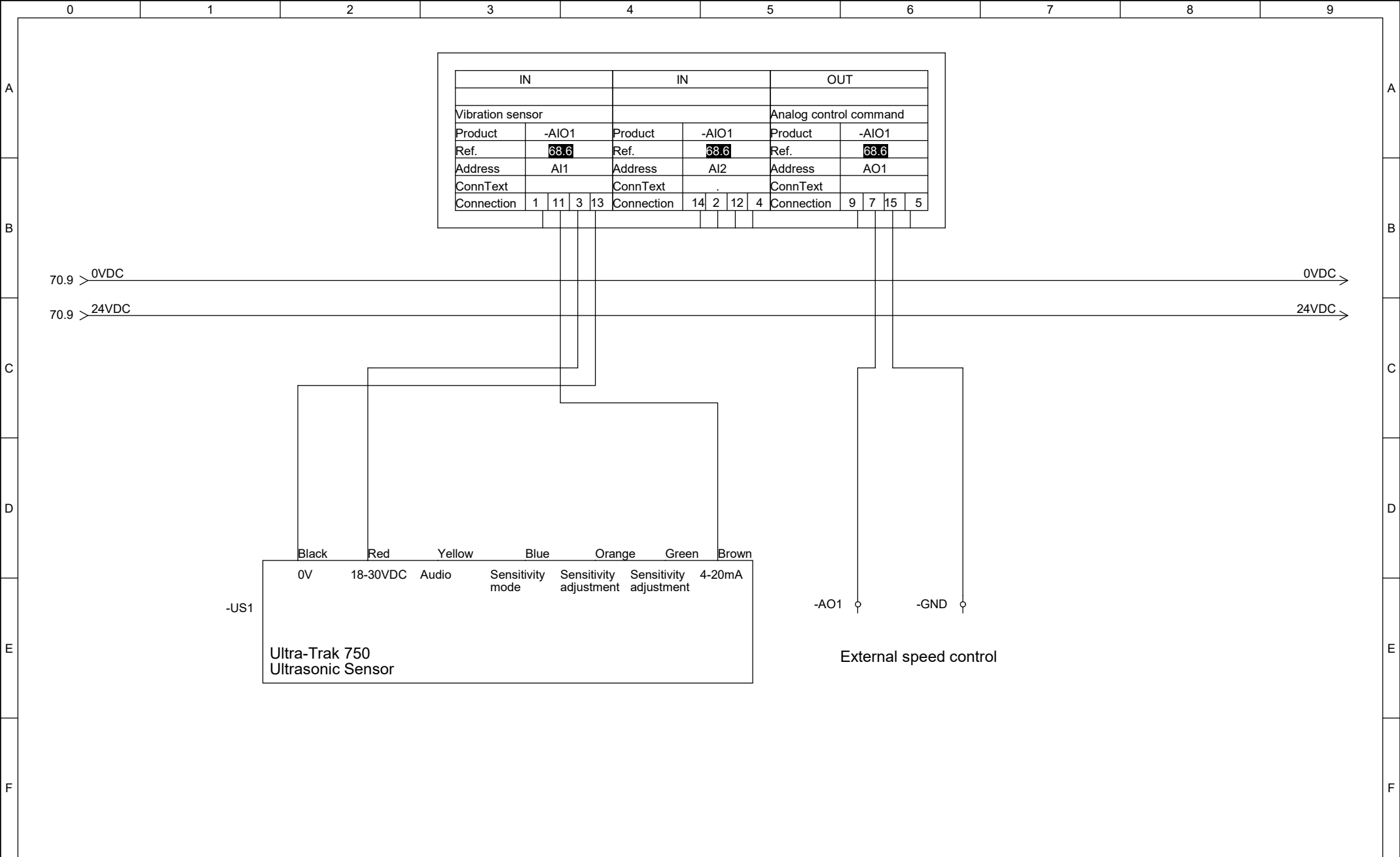


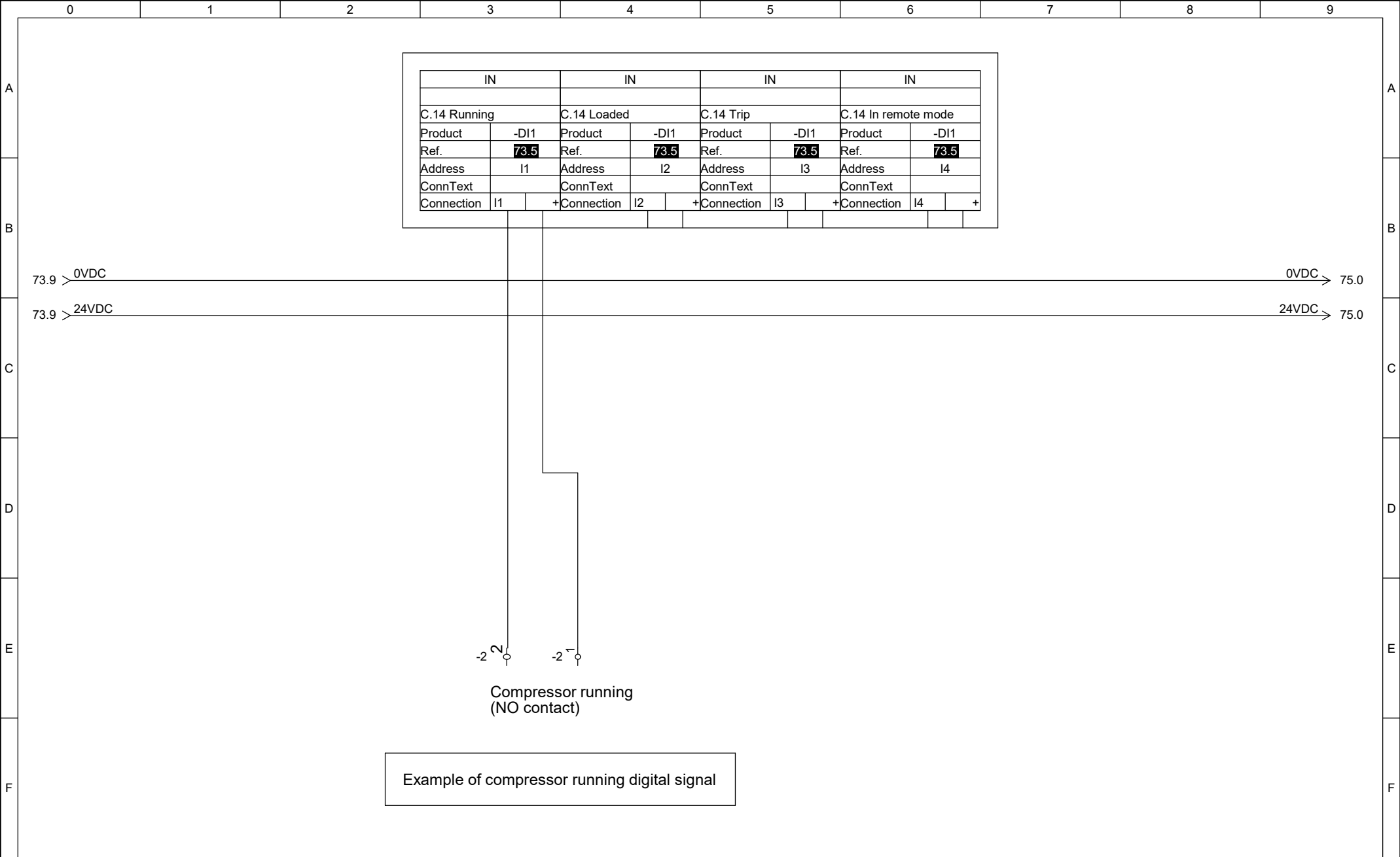


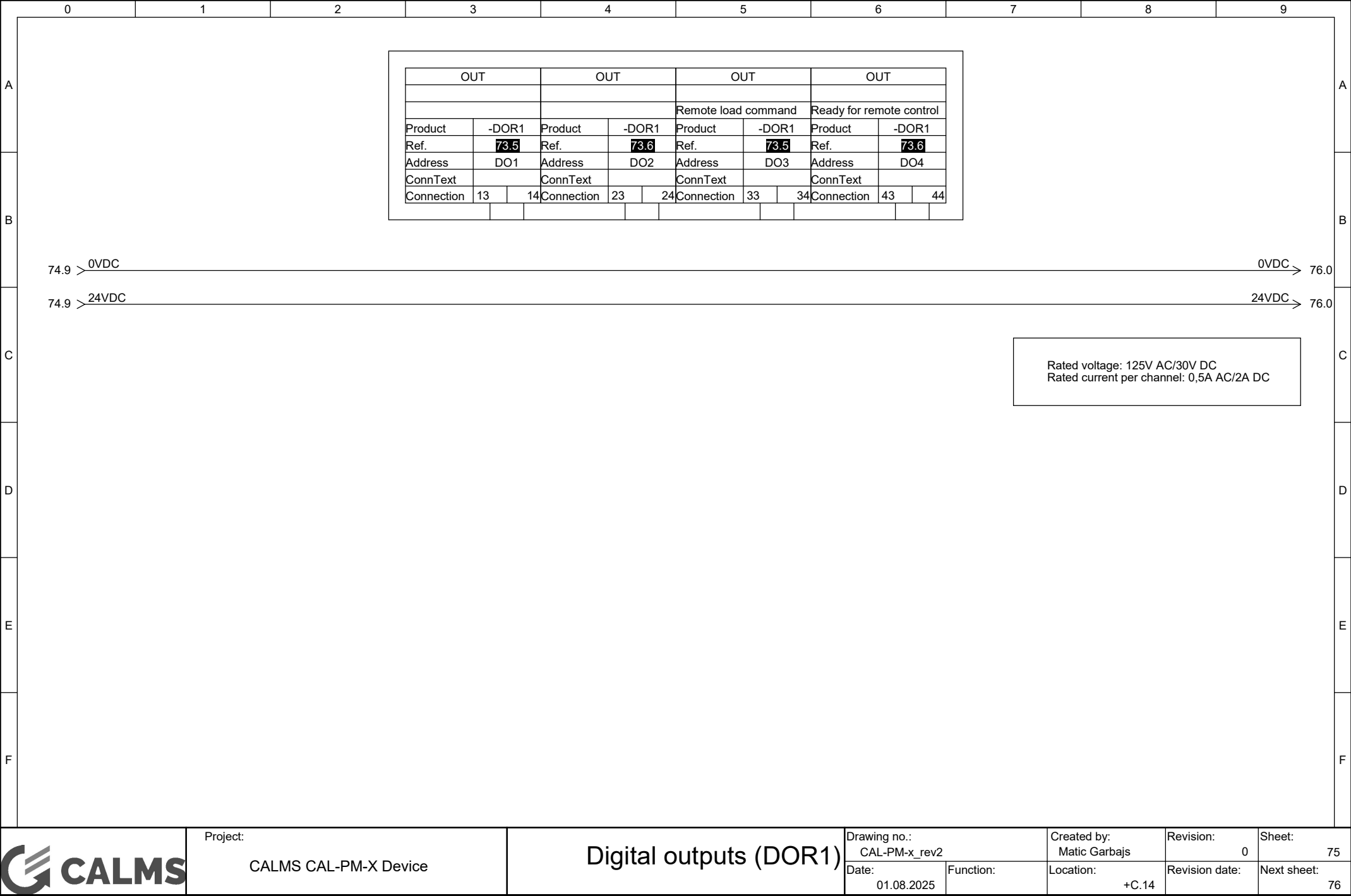


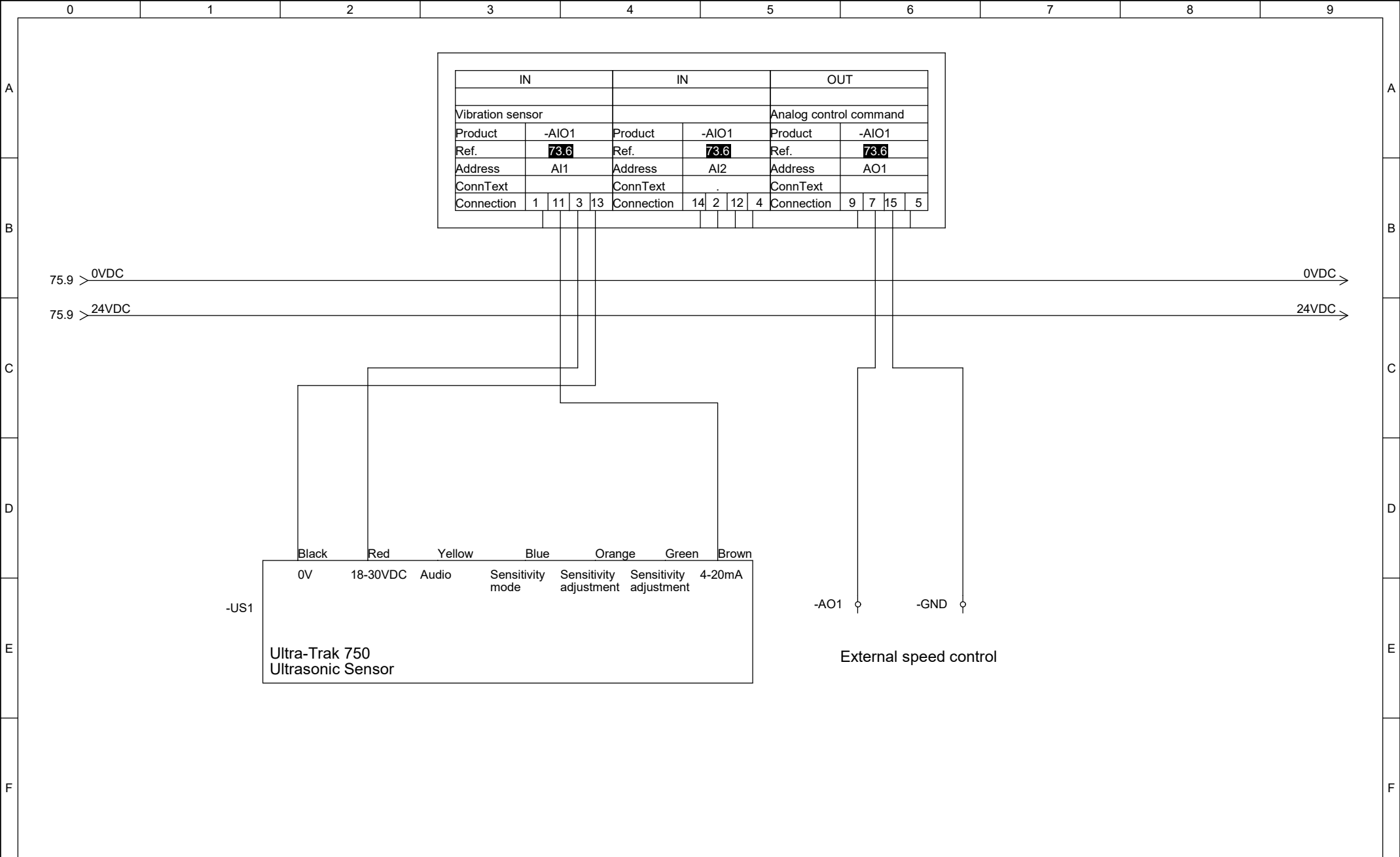


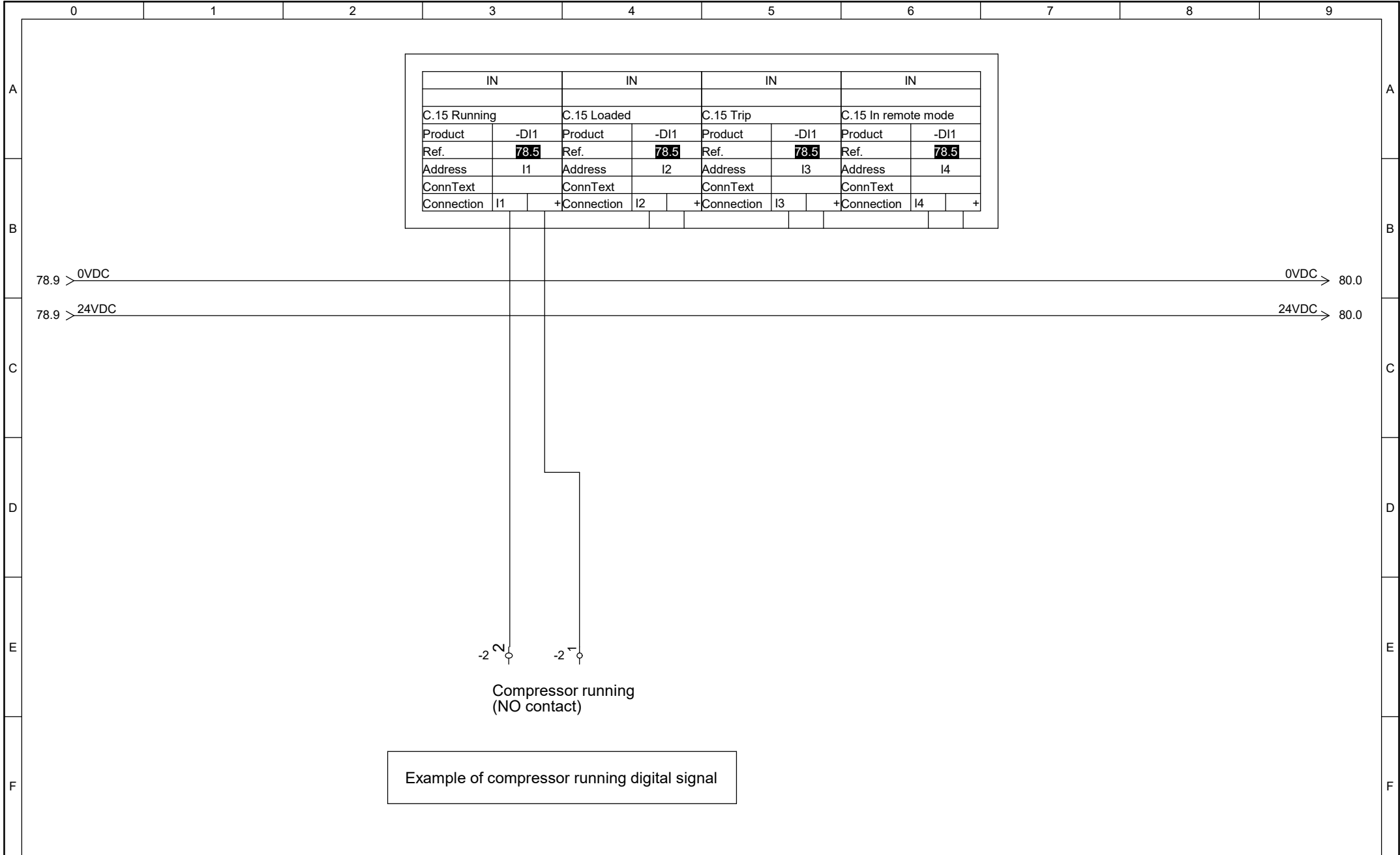


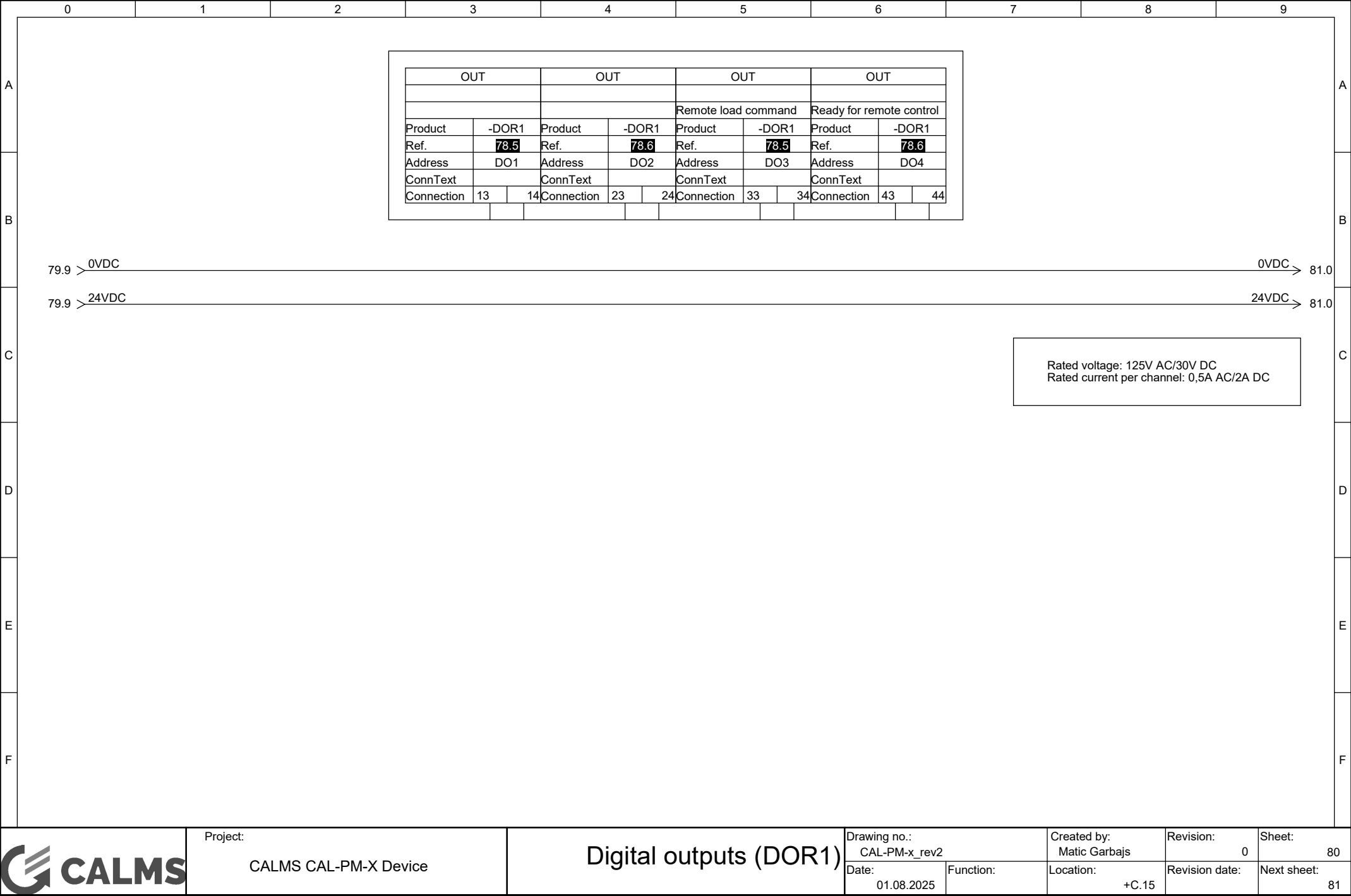


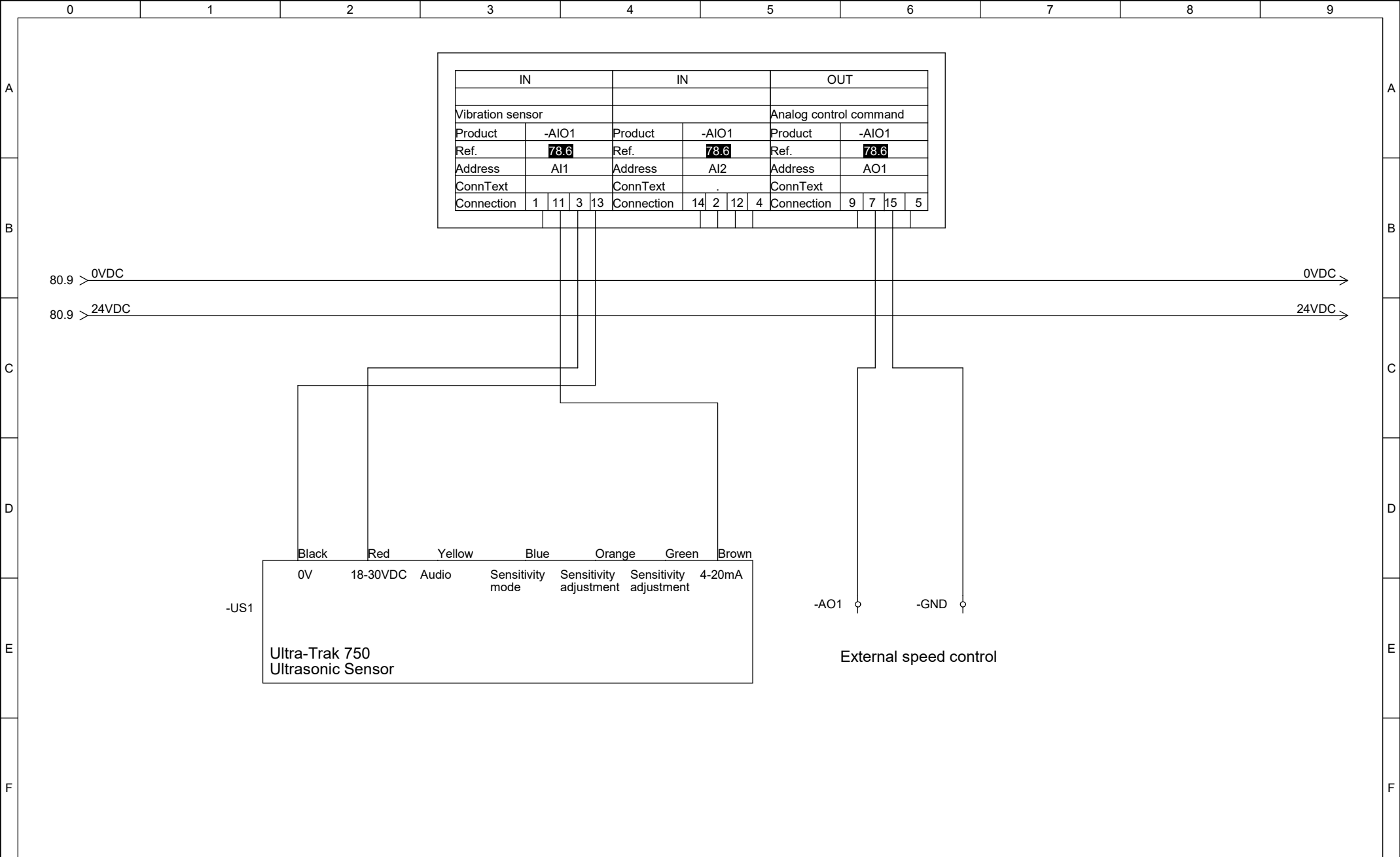


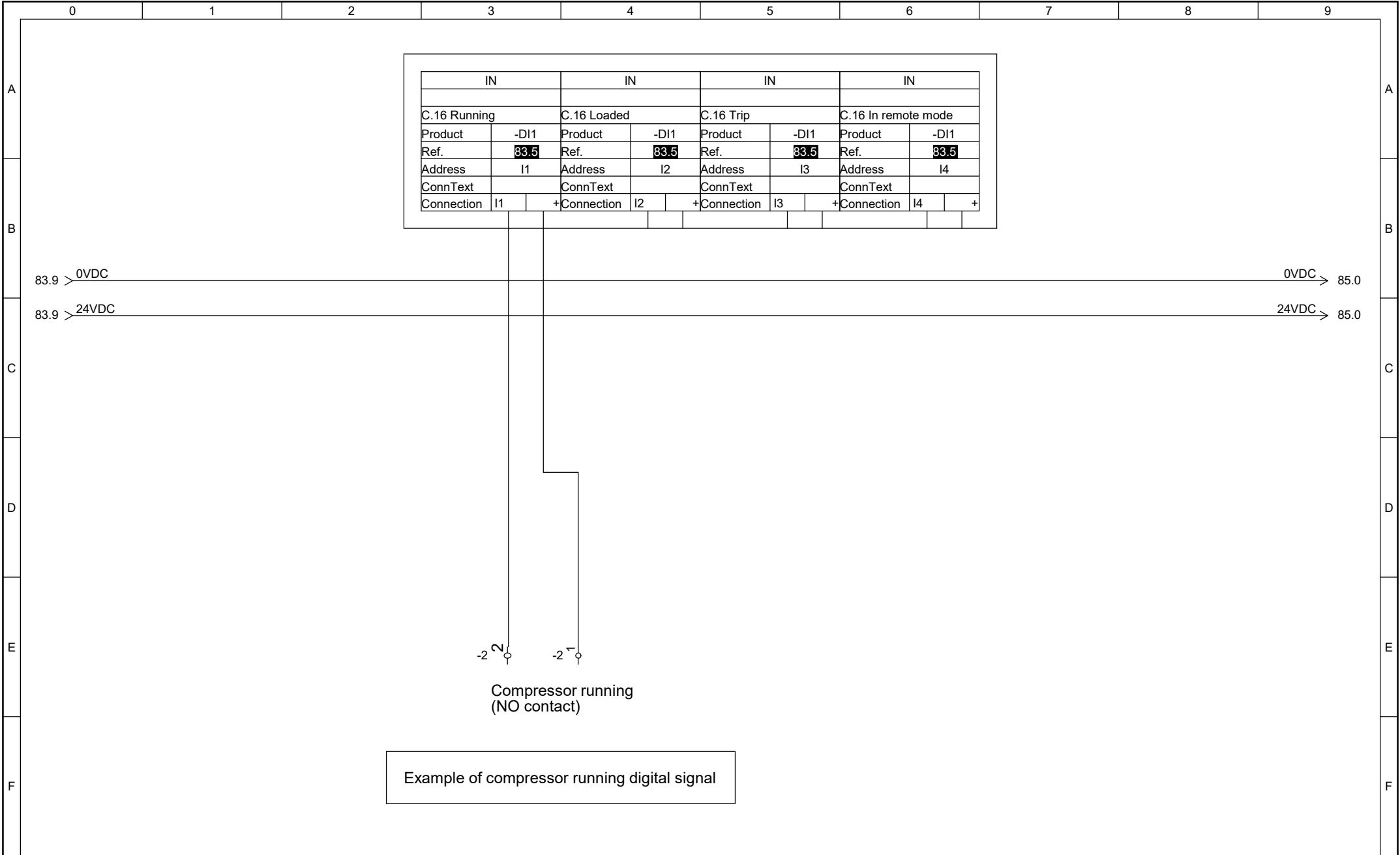


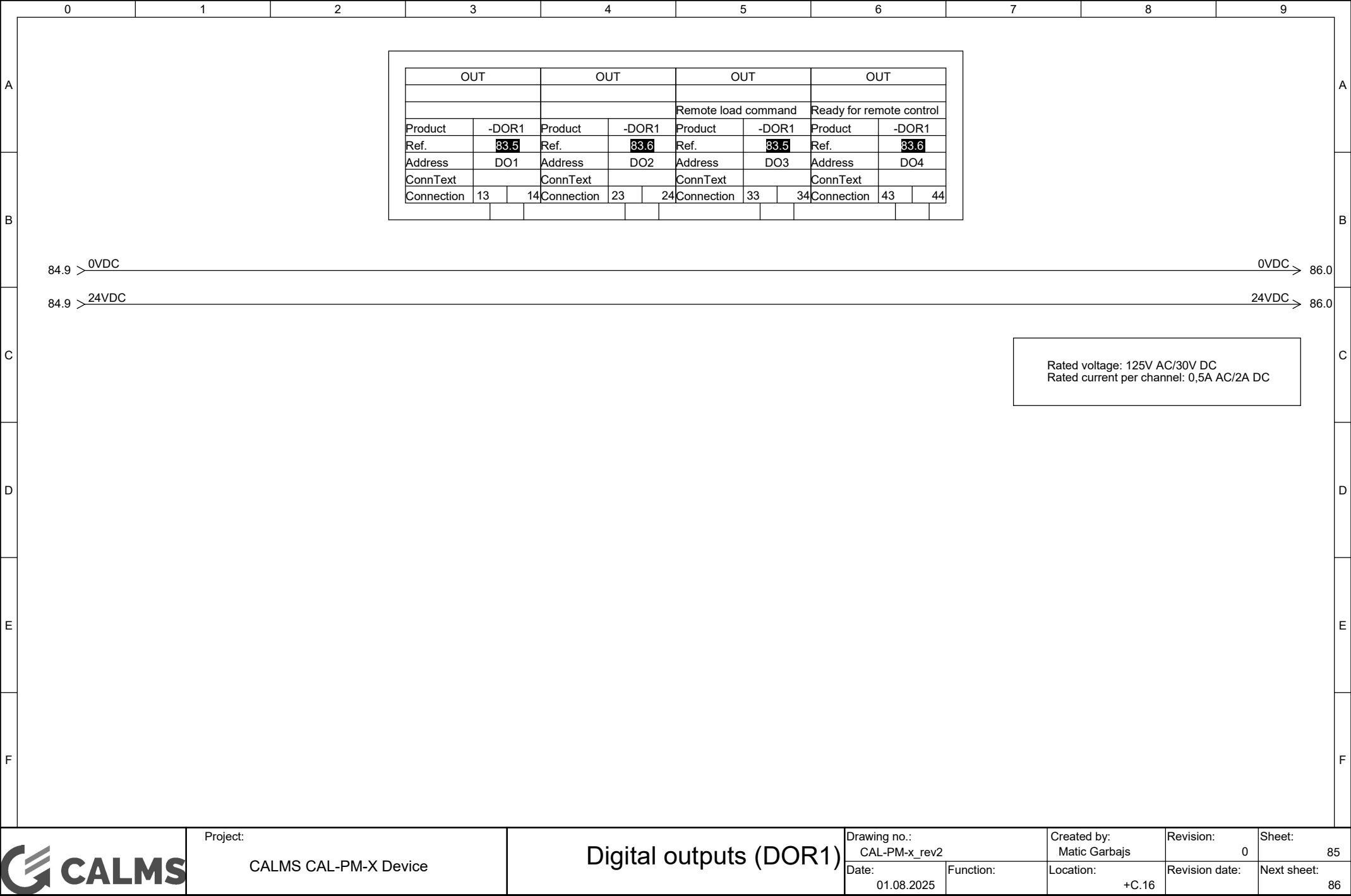


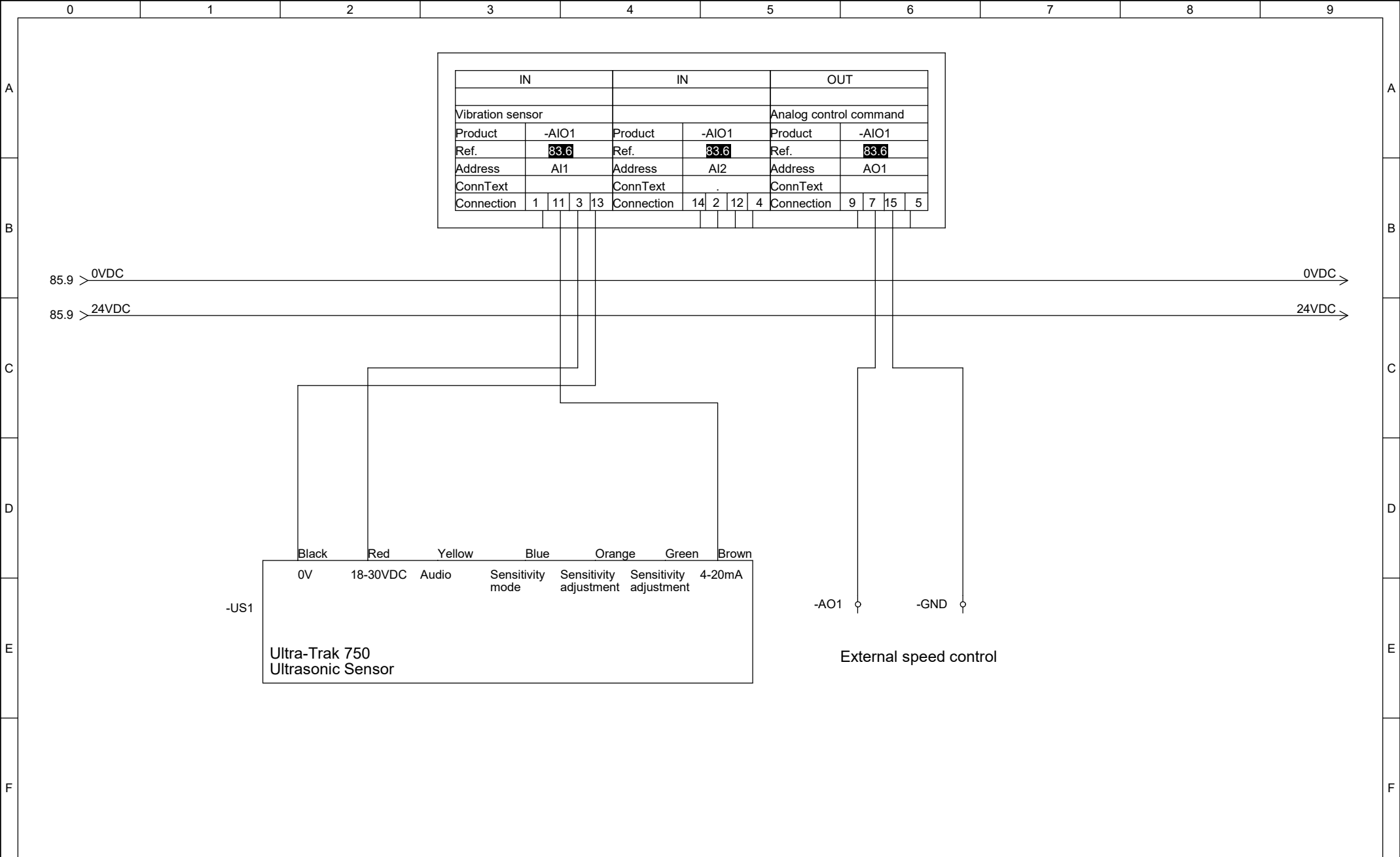












List of Components

Location (+)	Product (-)	Type	Description	Manufacturer	Document type	Sheet	Cell	
+CAL-PM box	-SPD1	VAL-SEC-T2-1S-350	Surge protection device	PHOENIX CONTACT	Circuit Diagrams IEC	2	1	
+CAL-PM box	-F1	TMC 71C 06A	Circuit breaker C 6A 1 pole	PHOENIX CONTACT	Circuit Diagrams IEC	2	2	
+CAL-PM box	-PS1	1110466	Power supply 120W 24VDC/5A	PHOENIX CONTACT	Circuit Diagrams IEC	2	2	
+CAL-PM box	-HMI1	MT8106iP	HMI 10.1" WVA display	WEINTEK	Circuit Diagrams IEC	2	5	
+CAL-PM box	-F3	ABE7FU050	Cartridge fuse 5x20mm 0,5A 250V	SCHNEIDER ELECTRIC	Circuit Diagrams IEC	2	6	
+CAL-PM box	-F2	ABE7FU050	Cartridge fuse 5x20mm 0,5A 250V	SCHNEIDER ELECTRIC	Circuit Diagrams IEC	2	6	
+CAL-PM box	-EG1	CAL-EDGE-4G	Edge gateway device	CALMS	Circuit Diagrams IEC	2	7	
+CAL-PM box	-F4	ABE7FU050	Cartridge fuse 5x20mm 0,5A 250V	SCHNEIDER ELECTRIC	Circuit Diagrams IEC	2	7	
+CAL-PM box	-F5	ABE7FU050	Cartridge fuse 5x20mm 0,5A 250V	SCHNEIDER ELECTRIC	Circuit Diagrams IEC	2	7	
+CAL-PM box	-F8	ABE7FU100	Cartridge fuse 5x20mm 1A 250V	SCHNEIDER ELECTRIC	Circuit Diagrams IEC	2	8	
+CAL-PM box	-F6	ABE7FU100	Cartridge fuse 5x20mm 1A 250V	SCHNEIDER ELECTRIC	Circuit Diagrams IEC	2	8	
+CAL-PM box	-F7	ABE7FU100	Cartridge fuse 5x20mm 1A 250V	SCHNEIDER ELECTRIC	Circuit Diagrams IEC	2	8	
+CAL-PM box	-F9	ABE7FU100	Cartridge fuse 5x20mm 1A 250V	SCHNEIDER ELECTRIC	Circuit Diagrams IEC	2	9	
+CAL-PM box	-PLC1	CX8290	EMBEDDED PC WITH ARM CORTEX-A53, 2 PORT ETHERNET SWITCH	BECKHOFF	Circuit Diagrams IEC	3	1	
+CAL-PM box	-X1	EL9185	ETHERCAT - POTENTIAL DISTRIBUTION TERMINAL, 4x24VDC, 4x0VDC	BECKHOFF	Circuit Diagrams IEC	3	2	
+CAL-PM box	-DI1	EL1008	ETHERCAT - 8-CHANNEL DIGITAL INPUT	BECKHOFF	Circuit Diagrams IEC	3	3	
+CAL-PM box	-AI1	EL3058	ETHERCAT - 8-CHANNEL ANALOG INPUT, CURRENT	BECKHOFF	Circuit Diagrams IEC	3	4	
+CAL-PM box	-DOR1	EL2624	ETHERCAT - 4-CHANNEL RELAY OUTPUT	BECKHOFF	Circuit Diagrams IEC	3	4	
+CAL-PM box	-PSE1	EL9410	ETHERCAT - POWER SUPPLY TERMINAL FOR E-BUS	BECKHOFF	Circuit Diagrams IEC	3	5	
+CAL-PM box	-EC1	EK1122	ETHERCAT - 2-PORT ETHERCAT JUNCTION	BECKHOFF	Circuit Diagrams IEC	3	6	
+CAL-PM box	-EC2	EK1122	ETHERCAT - 2-PORT ETHERCAT JUNCTION	BECKHOFF	Circuit Diagrams IEC	3	6	
+CAL-PM box	-EC3	EK1122	ETHERCAT - 2-PORT ETHERCAT JUNCTION	BECKHOFF	Circuit Diagrams IEC	3	7	
+CAL-PM box	-EC4	EK1122	ETHERCAT - 2-PORT ETHERCAT JUNCTION	BECKHOFF	Circuit Diagrams IEC	3	7	
+CAL-PM box	-EC5	EK1122	ETHERCAT - 2-PORT ETHERCAT JUNCTION	BECKHOFF	Circuit Diagrams IEC	4	1	
+CAL-PM box	-EC6	EK1122	ETHERCAT - 2-PORT ETHERCAT JUNCTION	BECKHOFF	Circuit Diagrams IEC	4	2	
+CAL-PM box	-EC7	EK1122	ETHERCAT - 2-PORT ETHERCAT JUNCTION	BECKHOFF	Circuit Diagrams IEC	4	2	
+CAL-PM box	-EC8	EK1122	ETHERCAT - 2-PORT ETHERCAT JUNCTION	BECKHOFF	Circuit Diagrams IEC	4	3	
+CAL-PM box	-S1	EXAMPLE	Example component	_UNDEFINED	Circuit Diagrams IEC	5	8	
+CAL-PM box	-P1	EXAMPLE	Example component	_UNDEFINED	Circuit Diagrams IEC	6	6	
+CAL-PM box	-CT1	EXAMPLE	Example component	_UNDEFINED	Circuit Diagrams IEC	7	5	
		Project: CALMS CAL-PM-X Device		Drawing no.: CAL-PM-x_rev2		Created by:	Revision:	Sheet: 1
				Date: 11. 08. 2025		Revision date: 11. 08. 2025 08:16:15		Next sheet: 2

List of Components

Location (+)	Product (-)	Type	Description	Manufacturer	Document type	Sheet	Cell	
+CAL-PM box	-PT1	EXAMPLE	Example component	_UNDEFINED	Circuit Diagrams IEC	7	8	
+C.01	-PS1	MDR-20-24	Power supply 24W 24VDC/1A	MEANWELL	Circuit Diagrams IEC	8	1	
+C.01	-F1	ETIMAT 6 1p C6	Circuit breaker C 6A 1-pole	ETI	Circuit Diagrams IEC	8	1	
+C.01	-BC1	EK1101	ETHERCAT - COUPLER WITH ID SWITCH	BECKHOFF	Circuit Diagrams IEC	8	3	
+C.01	-X1	EL9185	ETHERCAT - POTENTIAL DISTRIBUTION TERMINAL, 4x24VDC, 4x0VDC	BECKHOFF	Circuit Diagrams IEC	8	4	
+C.01	-DI1	EL1004	ETHERCAT - 4-CHANNEL DIGITAL INPUT	BECKHOFF	Circuit Diagrams IEC	8	5	
+C.01	-DOR1	EL2624	ETHERCAT - 4-CHANNEL RELAY OUTPUT	BECKHOFF	Circuit Diagrams IEC	8	5	
+C.01	-AIO1	EL4374	ETHERCAT - 2-CHANNEL ANALOG INPUT + 2-CHANNEL ANALOG OUTPUT	BECKHOFF	Circuit Diagrams IEC	8	6	
+C.01	-AIP1	EL3453	ETHERCAT - 3-CHANNEL ANALOG INPUT, POWER MEASURMENT	BECKHOFF	Circuit Diagrams IEC	8	6	
+CAL-PM box	-EC1	EK1122	ETHERCAT - 2-PORT ETHERCAT JUNCTION	BECKHOFF	Circuit Diagrams IEC	8	9	
+C.01	-US1	Ultra-Trak 750	Ultrasonic sensor, vibration sensor	UE SYSTEMS	Circuit Diagrams IEC	11	2	
+C.01	-F2	ETIMAT 6 3p C6	Circuit breaker C 6A 3-pole	ETI	Circuit Diagrams IEC	12	4	
+C.01	-B2	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	12	5	
+C.01	-B1	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	12	5	
+C.01	-B3	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	12	6	
+C.02	-F1	ETIMAT 6 1p C6	Circuit breaker C 6A 1-pole	ETI	Circuit Diagrams IEC	13	1	
+C.02	-PS1	MDR-20-24	Power supply 24W 24VDC/1A	MEANWELL	Circuit Diagrams IEC	13	1	
+C.02	-BC1	EK1101	ETHERCAT - COUPLER WITH ID SWITCH	BECKHOFF	Circuit Diagrams IEC	13	3	
+C.02	-X1	EL9185	ETHERCAT - POTENTIAL DISTRIBUTION TERMINAL, 4x24VDC, 4x0VDC	BECKHOFF	Circuit Diagrams IEC	13	4	
+C.02	-DOR1	EL2624	ETHERCAT - 4-CHANNEL RELAY OUTPUT	BECKHOFF	Circuit Diagrams IEC	13	5	
+C.02	-DI1	EL1004	ETHERCAT - 4-CHANNEL DIGITAL INPUT	BECKHOFF	Circuit Diagrams IEC	13	5	
+C.02	-AIO1	EL4374	ETHERCAT - 2-CHANNEL ANALOG INPUT + 2-CHANNEL ANALOG OUTPUT	BECKHOFF	Circuit Diagrams IEC	13	6	
+C.02	-AIP1	EL3453	ETHERCAT - 3-CHANNEL ANALOG INPUT, POWER MEASURMENT	BECKHOFF	Circuit Diagrams IEC	13	6	
+CAL-PM box	-EC1	EK1122	ETHERCAT - 2-PORT ETHERCAT JUNCTION	BECKHOFF	Circuit Diagrams IEC	13	9	
+C.02	-US1	Ultra-Trak 750	Ultrasonic sensor, vibration sensor	UE SYSTEMS	Circuit Diagrams IEC	16	2	
+C.02	-F2	ETIMAT 6 3p C6	Circuit breaker C 6A 3-pole	ETI	Circuit Diagrams IEC	17	4	
+C.02	-B2	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	17	5	
+C.02	-B1	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	17	5	
+C.02	-B3	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	17	6	
+C.03	-F1	ETIMAT 6 1p C6	Circuit breaker C 6A 1-pole	ETI	Circuit Diagrams IEC	18	1	
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+C.03	-PS1	MDR-20-24	Power supply 24W 24VDC/1A	MEANWELL	Circuit Diagrams IEC	18	1	
+C.03	-BC1	EK1101	ETHERCAT - COUPLER WITH ID SWITCH	BECKHOFF	Circuit Diagrams IEC	18	3	
+C.03	-X1	EL9185	ETHERCAT - POTENTIAL DISTRIBUTION TERMINAL, 4x24VDC, 4x0VDC	BECKHOFF	Circuit Diagrams IEC	18	4	
+C.03	-DI1	EL1004	ETHERCAT - 4-CHANNEL DIGITAL INPUT	BECKHOFF	Circuit Diagrams IEC	18	5	
+C.03	-DOR1	EL2624	ETHERCAT - 4-CHANNEL RELAY OUTPUT	BECKHOFF	Circuit Diagrams IEC	18	5	
+C.03	-AIO1	EL4374	ETHERCAT - 2-CHANNEL ANALOG INPUT + 2-CHANNEL ANALOG OUTPUT	BECKHOFF	Circuit Diagrams IEC	18	6	
+C.03	-AIP1	EL3453	ETHERCAT - 3-CHANNEL ANALOG INPUT, POWER MEASURMENT	BECKHOFF	Circuit Diagrams IEC	18	6	
+CAL-PM box	-EC2	EK1122	ETHERCAT - 2-PORT ETHERCAT JUNCTION	BECKHOFF	Circuit Diagrams IEC	18	9	
+C.03	-US1	Ultra-Trak 750	Ultrasonic sensor, vibration sensor	UE SYSTEMS	Circuit Diagrams IEC	21	2	
+C.03	-F2	ETIMAT 6 3p C6	Circuit breaker C 6A 3-pole	ETI	Circuit Diagrams IEC	22	4	
+C.03	-B2	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	22	5	
+C.03	-B1	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	22	5	
+C.03	-B3	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	22	6	
+C.04	-PS1	MDR-20-24	Power supply 24W 24VDC/1A	MEANWELL	Circuit Diagrams IEC	23	1	
+C.04	-F1	ETIMAT 6 1p C6	Circuit breaker C 6A 1-pole	ETI	Circuit Diagrams IEC	23	1	
+C.04	-BC1	EK1101	ETHERCAT - COUPLER WITH ID SWITCH	BECKHOFF	Circuit Diagrams IEC	23	3	
+C.04	-X1	EL9185	ETHERCAT - POTENTIAL DISTRIBUTION TERMINAL, 4x24VDC, 4x0VDC	BECKHOFF	Circuit Diagrams IEC	23	4	
+C.04	-DI1	EL1004	ETHERCAT - 4-CHANNEL DIGITAL INPUT	BECKHOFF	Circuit Diagrams IEC	23	5	
+C.04	-DOR1	EL2624	ETHERCAT - 4-CHANNEL RELAY OUTPUT	BECKHOFF	Circuit Diagrams IEC	23	5	
+C.04	-AIP1	EL3453	ETHERCAT - 3-CHANNEL ANALOG INPUT, POWER MEASURMENT	BECKHOFF	Circuit Diagrams IEC	23	6	
+C.04	-AIO1	EL4374	ETHERCAT - 2-CHANNEL ANALOG INPUT + 2-CHANNEL ANALOG OUTPUT	BECKHOFF	Circuit Diagrams IEC	23	6	
+CAL-PM box	-EC2	EK1122	ETHERCAT - 2-PORT ETHERCAT JUNCTION	BECKHOFF	Circuit Diagrams IEC	23	9	
+C.04	-US1	Ultra-Trak 750	Ultrasonic sensor, vibration sensor	UE SYSTEMS	Circuit Diagrams IEC	26	2	
+C.04	-F2	ETIMAT 6 3p C6	Circuit breaker C 6A 3-pole	ETI	Circuit Diagrams IEC	27	4	
+C.04	-B1	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	27	5	
+C.04	-B2	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	27	5	
+C.04	-B3	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	27	6	
+C.05	-F1	ETIMAT 6 1p C6	Circuit breaker C 6A 1-pole	ETI	Circuit Diagrams IEC	28	1	
+C.05	-PS1	MDR-20-24	Power supply 24W 24VDC/1A	MEANWELL	Circuit Diagrams IEC	28	1	
+C.05	-BC1	EK1101	ETHERCAT - COUPLER WITH ID SWITCH	BECKHOFF	Circuit Diagrams IEC	28	3	
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+C.05	-X1	EL9185	ETHERCAT - POTENTIAL DISTRIBUTION TERMINAL, 4x24VDC, 4x0VDC	BECKHOFF	Circuit Diagrams IEC	28	4				
+C.05	-DOR1	EL2624	ETHERCAT - 4-CHANNEL RELAY OUTPUT	BECKHOFF	Circuit Diagrams IEC	28	5				
+C.05	-DI1	EL1004	ETHERCAT - 4-CHANNEL DIGITAL INPUT	BECKHOFF	Circuit Diagrams IEC	28	5				
+C.05	-AIO1	EL4374	ETHERCAT - 2-CHANNEL ANALOG INPUT + 2-CHANNEL ANALOG OUTPUT	BECKHOFF	Circuit Diagrams IEC	28	6				
+C.05	-AIP1	EL3453	ETHERCAT - 3-CHANNEL ANALOG INPUT, POWER MEASURMENT	BECKHOFF	Circuit Diagrams IEC	28	6				
+CAL-PM box	-EC3	EK1122	ETHERCAT - 2-PORT ETHERCAT JUNCTION	BECKHOFF	Circuit Diagrams IEC	28	9				
+C.05	-US1	Ultra-Trak 750	Ultrasonic sensor, vibration sensor	UE SYSTEMS	Circuit Diagrams IEC	31	2				
+C.05	-F3	ETIMAT 6 3p C6	Circuit breaker C 6A 3-pole	ETI	Circuit Diagrams IEC	32	4				
+C.05	-B5	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	32	5				
+C.05	-B4	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	32	5				
+C.05	-B6	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	32	6				
+C.06	-PS1	MDR-20-24	Power supply 24W 24VDC/1A	MEANWELL	Circuit Diagrams IEC	33	1				
+C.06	-F1	ETIMAT 6 1p C6	Circuit breaker C 6A 1-pole	ETI	Circuit Diagrams IEC	33	1				
+C.06	-BC1	EK1101	ETHERCAT - COUPLER WITH ID SWITCH	BECKHOFF	Circuit Diagrams IEC	33	3				
+C.06	-X1	EL9185	ETHERCAT - POTENTIAL DISTRIBUTION TERMINAL, 4x24VDC, 4x0VDC	BECKHOFF	Circuit Diagrams IEC	33	4				
+C.06	-DOR1	EL2624	ETHERCAT - 4-CHANNEL RELAY OUTPUT	BECKHOFF	Circuit Diagrams IEC	33	5				
+C.06	-DI1	EL1004	ETHERCAT - 4-CHANNEL DIGITAL INPUT	BECKHOFF	Circuit Diagrams IEC	33	5				
+C.06	-AIO1	EL4374	ETHERCAT - 2-CHANNEL ANALOG INPUT + 2-CHANNEL ANALOG OUTPUT	BECKHOFF	Circuit Diagrams IEC	33	6				
+C.06	-AIP1	EL3453	ETHERCAT - 3-CHANNEL ANALOG INPUT, POWER MEASURMENT	BECKHOFF	Circuit Diagrams IEC	33	6				
+CAL-PM box	-EC3	EK1122	ETHERCAT - 2-PORT ETHERCAT JUNCTION	BECKHOFF	Circuit Diagrams IEC	33	9				
+C.06	-US1	Ultra-Trak 750	Ultrasonic sensor, vibration sensor	UE SYSTEMS	Circuit Diagrams IEC	36	2				
+C.06	-F2	ETIMAT 6 3p C6	Circuit breaker C 6A 3-pole	ETI	Circuit Diagrams IEC	37	4				
+C.06	-B2	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	37	5				
+C.06	-B1	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	37	5				
+C.06	-B3	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	37	6				
+C.07	-PS1	MDR-20-24	Power supply 24W 24VDC/1A	MEANWELL	Circuit Diagrams IEC	38	1				
+C.07	-F1	ETIMAT 6 1p C6	Circuit breaker C 6A 1-pole	ETI	Circuit Diagrams IEC	38	1				
+C.07	-BC1	EK1101	ETHERCAT - COUPLER WITH ID SWITCH	BECKHOFF	Circuit Diagrams IEC	38	3				
+C.07	-X1	EL9185	ETHERCAT - POTENTIAL DISTRIBUTION TERMINAL, 4x24VDC, 4x0VDC	BECKHOFF	Circuit Diagrams IEC	38	4				
+C.07	-DOR1	EL2624	ETHERCAT - 4-CHANNEL RELAY OUTPUT	BECKHOFF	Circuit Diagrams IEC	38	5				
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+C.07	-DI1	EL1004	ETHERCAT - 4-CHANNEL DIGITAL INPUT	BECKHOFF	Circuit Diagrams IEC	38	5				
+C.07	-AIO1	EL4374	ETHERCAT - 2-CHANNEL ANALOG INPUT + 2-CHANNEL ANALOG OUTPUT	BECKHOFF	Circuit Diagrams IEC	38	6				
+C.07	-AIP1	EL3453	ETHERCAT - 3-CHANNEL ANALOG INPUT, POWER MEASURMENT	BECKHOFF	Circuit Diagrams IEC	38	6				
+CAL-PM box	-EC4	EK1122	ETHERCAT - 2-PORT ETHERCAT JUNCTION	BECKHOFF	Circuit Diagrams IEC	38	9				
+C.07	-US1	Ultra-Trak 750	Ultrasonic sensor, vibration sensor	UE SYSTEMS	Circuit Diagrams IEC	41	2				
+C.07	-F2	ETIMAT 6 3p C6	Circuit breaker C 6A 3-pole	ETI	Circuit Diagrams IEC	42	4				
+C.07	-B1	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	42	5				
+C.07	-B2	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	42	5				
+C.07	-B3	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	42	6				
+C.08	-PS1	MDR-20-24	Power supply 24W 24VDC/1A	MEANWELL	Circuit Diagrams IEC	43	1				
+C.08	-F1	ETIMAT 6 1p C6	Circuit breaker C 6A 1-pole	ETI	Circuit Diagrams IEC	43	1				
+C.08	-BC1	EK1101	ETHERCAT - COUPLER WITH ID SWITCH	BECKHOFF	Circuit Diagrams IEC	43	3				
+C.08	-X1	EL9185	ETHERCAT - POTENTIAL DISTRIBUTION TERMINAL, 4x24VDC, 4x0VDC	BECKHOFF	Circuit Diagrams IEC	43	4				
+C.08	-DI1	EL1004	ETHERCAT - 4-CHANNEL DIGITAL INPUT	BECKHOFF	Circuit Diagrams IEC	43	5				
+C.08	-DOR1	EL2624	ETHERCAT - 4-CHANNEL RELAY OUTPUT	BECKHOFF	Circuit Diagrams IEC	43	5				
+C.08	-AIP1	EL3453	ETHERCAT - 3-CHANNEL ANALOG INPUT, POWER MEASURMENT	BECKHOFF	Circuit Diagrams IEC	43	6				
+C.08	-AIO1	EL4374	ETHERCAT - 2-CHANNEL ANALOG INPUT + 2-CHANNEL ANALOG OUTPUT	BECKHOFF	Circuit Diagrams IEC	43	6				
+CAL-PM box	-EC4	EK1122	ETHERCAT - 2-PORT ETHERCAT JUNCTION	BECKHOFF	Circuit Diagrams IEC	43	9				
+C.08	-US1	Ultra-Trak 750	Ultrasonic sensor, vibration sensor	UE SYSTEMS	Circuit Diagrams IEC	46	2				
+C.08	-F2	ETIMAT 6 3p C6	Circuit breaker C 6A 3-pole	ETI	Circuit Diagrams IEC	47	4				
+C.08	-B1	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	47	5				
+C.08	-B2	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	47	5				
+C.08	-B3	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	47	6				
+C.09	-PS1	MDR-20-24	Power supply 24W 24VDC/1A	MEANWELL	Circuit Diagrams IEC	48	1				
+C.09	-F1	ETIMAT 6 1p C6	Circuit breaker C 6A 1-pole	ETI	Circuit Diagrams IEC	48	1				
+C.09	-BC1	EK1101	ETHERCAT - COUPLER WITH ID SWITCH	BECKHOFF	Circuit Diagrams IEC	48	3				
+C.09	-X1	EL9185	ETHERCAT - POTENTIAL DISTRIBUTION TERMINAL, 4x24VDC, 4x0VDC	BECKHOFF	Circuit Diagrams IEC	48	4				
+C.09	-DI1	EL1004	ETHERCAT - 4-CHANNEL DIGITAL INPUT	BECKHOFF	Circuit Diagrams IEC	48	5				
+C.09	-DOR1	EL2624	ETHERCAT - 4-CHANNEL RELAY OUTPUT	BECKHOFF	Circuit Diagrams IEC	48	5				
+C.09	-AIO1	EL4374	ETHERCAT - 2-CHANNEL ANALOG INPUT + 2-CHANNEL ANALOG OUTPUT	BECKHOFF	Circuit Diagrams IEC	48	6				
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+C.09	-AIP1	EL3453	ETHERCAT - 3-CHANNEL ANALOG INPUT, POWER MEASURMENT	BECKHOFF	Circuit Diagrams IEC	48	6	
+CAL-PM box	-EC5	EK1122	ETHERCAT - 2-PORT ETHERCAT JUNCTION	BECKHOFF	Circuit Diagrams IEC	48	9	
+C.09	-US1	Ultra-Trak 750	Ultrasonic sensor, vibration sensor	UE SYSTEMS	Circuit Diagrams IEC	51	2	
+C.09	-F2	ETIMAT 6 3p C6	Circuit breaker C 6A 3-pole	ETI	Circuit Diagrams IEC	52	4	
+C.09	-B1	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	52	5	
+C.09	-B2	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	52	5	
+C.09	-B3	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	52	6	
+C.10	-PS1	MDR-20-24	Power supply 24W 24VDC/1A	MEANWELL	Circuit Diagrams IEC	53	1	
+C.10	-F1	ETIMAT 6 1p C6	Circuit breaker C 6A 1-pole	ETI	Circuit Diagrams IEC	53	1	
+C.10	-BC1	EK1101	ETHERCAT - COUPLER WITH ID SWITCH	BECKHOFF	Circuit Diagrams IEC	53	3	
+C.10	-X1	EL9185	ETHERCAT - POTENTIAL DISTRIBUTION TERMINAL, 4x24VDC, 4x0VDC	BECKHOFF	Circuit Diagrams IEC	53	4	
+C.10	-DOR1	EL2624	ETHERCAT - 4-CHANNEL RELAY OUTPUT	BECKHOFF	Circuit Diagrams IEC	53	5	
+C.10	-DI1	EL1004	ETHERCAT - 4-CHANNEL DIGITAL INPUT	BECKHOFF	Circuit Diagrams IEC	53	5	
+C.10	-AIP1	EL3453	ETHERCAT - 3-CHANNEL ANALOG INPUT, POWER MEASURMENT	BECKHOFF	Circuit Diagrams IEC	53	6	
+C.10	-AIO1	EL4374	ETHERCAT - 2-CHANNEL ANALOG INPUT + 2-CHANNEL ANALOG OUTPUT	BECKHOFF	Circuit Diagrams IEC	53	6	
+CAL-PM box	-EC5	EK1122	ETHERCAT - 2-PORT ETHERCAT JUNCTION	BECKHOFF	Circuit Diagrams IEC	53	9	
+C.10	-US1	Ultra-Trak 750	Ultrasonic sensor, vibration sensor	UE SYSTEMS	Circuit Diagrams IEC	56	2	
+C.10	-F2	ETIMAT 6 3p C6	Circuit breaker C 6A 3-pole	ETI	Circuit Diagrams IEC	57	4	
+C.10	-B2	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	57	5	
+C.10	-B1	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	57	5	
+C.10	-B3	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	57	6	
+C.11	-F1	ETIMAT 6 1p C6	Circuit breaker C 6A 1-pole	ETI	Circuit Diagrams IEC	58	1	
+C.11	-PS1	MDR-20-24	Power supply 24W 24VDC/1A	MEANWELL	Circuit Diagrams IEC	58	1	
+C.11	-BC1	EK1101	ETHERCAT - COUPLER WITH ID SWITCH	BECKHOFF	Circuit Diagrams IEC	58	3	
+C.11	-X1	EL9185	ETHERCAT - POTENTIAL DISTRIBUTION TERMINAL, 4x24VDC, 4x0VDC	BECKHOFF	Circuit Diagrams IEC	58	4	
+C.11	-DOR1	EL2624	ETHERCAT - 4-CHANNEL RELAY OUTPUT	BECKHOFF	Circuit Diagrams IEC	58	5	
+C.11	-DI1	EL1004	ETHERCAT - 4-CHANNEL DIGITAL INPUT	BECKHOFF	Circuit Diagrams IEC	58	5	
+C.11	-AIP1	EL3453	ETHERCAT - 3-CHANNEL ANALOG INPUT, POWER MEASURMENT	BECKHOFF	Circuit Diagrams IEC	58	6	
+C.11	-AIO1	EL4374	ETHERCAT - 2-CHANNEL ANALOG INPUT + 2-CHANNEL ANALOG OUTPUT	BECKHOFF	Circuit Diagrams IEC	58	6	
+CAL-PM box	-EC6	EK1122	ETHERCAT - 2-PORT ETHERCAT JUNCTION	BECKHOFF	Circuit Diagrams IEC	58	9	
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+C.11	-US1	Ultra-Trak 750	Ultrasonic sensor, vibration sensor	UE SYSTEMS	Circuit Diagrams IEC	61	2	
+C.11	-F2	ETIMAT 6 3p C6	Circuit breaker C 6A 3-pole	ETI	Circuit Diagrams IEC	62	4	
+C.11	-B1	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	62	5	
+C.11	-B2	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	62	5	
+C.11	-B3	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	62	6	
+C.12	-PS1	MDR-20-24	Power supply 24W 24VDC/1A	MEANWELL	Circuit Diagrams IEC	63	1	
+C.12	-F1	ETIMAT 6 1p C6	Circuit breaker C 6A 1-pole	ETI	Circuit Diagrams IEC	63	1	
+C.12	-BC1	EK1101	ETHERCAT - COUPLER WITH ID SWITCH	BECKHOFF	Circuit Diagrams IEC	63	3	
+C.12	-X1	EL9185	ETHERCAT - POTENTIAL DISTRIBUTION TERMINAL, 4x24VDC, 4x0VDC	BECKHOFF	Circuit Diagrams IEC	63	4	
+C.12	-DOR1	EL2624	ETHERCAT - 4-CHANNEL RELAY OUTPUT	BECKHOFF	Circuit Diagrams IEC	63	5	
+C.12	-DI1	EL1004	ETHERCAT - 4-CHANNEL DIGITAL INPUT	BECKHOFF	Circuit Diagrams IEC	63	5	
+C.12	-AIO1	EL4374	ETHERCAT - 2-CHANNEL ANALOG INPUT + 2-CHANNEL ANALOG OUTPUT	BECKHOFF	Circuit Diagrams IEC	63	6	
+C.12	-AIP1	EL3453	ETHERCAT - 3-CHANNEL ANALOG INPUT, POWER MEASURMENT	BECKHOFF	Circuit Diagrams IEC	63	6	
+CAL-PM box	-EC6	EK1122	ETHERCAT - 2-PORT ETHERCAT JUNCTION	BECKHOFF	Circuit Diagrams IEC	63	9	
+C.12	-US1	Ultra-Trak 750	Ultrasonic sensor, vibration sensor	UE SYSTEMS	Circuit Diagrams IEC	66	2	
+C.12	-F2	ETIMAT 6 3p C6	Circuit breaker C 6A 3-pole	ETI	Circuit Diagrams IEC	67	4	
+C.12	-B1	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	67	5	
+C.12	-B2	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	67	5	
+C.12	-B3	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	67	6	
+C.13	-F1	ETIMAT 6 1p C6	Circuit breaker C 6A 1-pole	ETI	Circuit Diagrams IEC	68	1	
+C.13	-PS1	MDR-20-24	Power supply 24W 24VDC/1A	MEANWELL	Circuit Diagrams IEC	68	1	
+C.13	-BC1	EK1101	ETHERCAT - COUPLER WITH ID SWITCH	BECKHOFF	Circuit Diagrams IEC	68	3	
+C.13	-X1	EL9185	ETHERCAT - POTENTIAL DISTRIBUTION TERMINAL, 4x24VDC, 4x0VDC	BECKHOFF	Circuit Diagrams IEC	68	4	
+C.13	-DI1	EL1004	ETHERCAT - 4-CHANNEL DIGITAL INPUT	BECKHOFF	Circuit Diagrams IEC	68	5	
+C.13	-DOR1	EL2624	ETHERCAT - 4-CHANNEL RELAY OUTPUT	BECKHOFF	Circuit Diagrams IEC	68	5	
+C.13	-AIO1	EL4374	ETHERCAT - 2-CHANNEL ANALOG INPUT + 2-CHANNEL ANALOG OUTPUT	BECKHOFF	Circuit Diagrams IEC	68	6	
+C.13	-AIP1	EL3453	ETHERCAT - 3-CHANNEL ANALOG INPUT, POWER MEASURMENT	BECKHOFF	Circuit Diagrams IEC	68	6	
+CAL-PM box	-EC7	EK1122	ETHERCAT - 2-PORT ETHERCAT JUNCTION	BECKHOFF	Circuit Diagrams IEC	68	9	
+C.13	-US1	Ultra-Trak 750	Ultrasonic sensor, vibration sensor	UE SYSTEMS	Circuit Diagrams IEC	71	2	
+C.13	-F2	ETIMAT 6 3p C6	Circuit breaker C 6A 3-pole	ETI	Circuit Diagrams IEC	72	4	
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+C.13	-B1	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	72	5
+C.13	-B2	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	72	5
+C.13	-B3	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	72	6
+C.14	-F1	ETIMAT 6 1p C6	Circuit breaker C 6A 1-pole	ETI	Circuit Diagrams IEC	73	1
+C.14	-PS1	MDR-20-24	Power supply 24W 24VDC/1A	MEANWELL	Circuit Diagrams IEC	73	1
+C.14	-BC1	EK1101	ETHERCAT - COUPLER WITH ID SWITCH	BECKHOFF	Circuit Diagrams IEC	73	3
+C.14	-X1	EL9185	ETHERCAT - POTENTIAL DISTRIBUTION TERMINAL, 4x24VDC, 4x0VDC	BECKHOFF	Circuit Diagrams IEC	73	4
+C.14	-DI1	EL1004	ETHERCAT - 4-CHANNEL DIGITAL INPUT	BECKHOFF	Circuit Diagrams IEC	73	5
+C.14	-DOR1	EL2624	ETHERCAT - 4-CHANNEL RELAY OUTPUT	BECKHOFF	Circuit Diagrams IEC	73	5
+C.14	-AIO1	EL4374	ETHERCAT - 2-CHANNEL ANALOG INPUT + 2-CHANNEL ANALOG OUTPUT	BECKHOFF	Circuit Diagrams IEC	73	6
+C.14	-AIP1	EL3453	ETHERCAT - 3-CHANNEL ANALOG INPUT, POWER MEASUREMENT	BECKHOFF	Circuit Diagrams IEC	73	6
+CAL-PM box	-EC7	EK1122	ETHERCAT - 2-PORT ETHERCAT JUNCTION	BECKHOFF	Circuit Diagrams IEC	73	9
+C.14	-US1	Ultra-Trak 750	Ultrasonic sensor, vibration sensor	UE SYSTEMS	Circuit Diagrams IEC	76	2
+C.14	-F2	ETIMAT 6 3p C6	Circuit breaker C 6A 3-pole	ETI	Circuit Diagrams IEC	77	4
+C.14	-B1	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	77	5
+C.14	-B2	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	77	5
+C.14	-B3	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	77	6
+C.15	-F1	ETIMAT 6 1p C6	Circuit breaker C 6A 1-pole	ETI	Circuit Diagrams IEC	78	1
+C.15	-PS1	MDR-20-24	Power supply 24W 24VDC/1A	MEANWELL	Circuit Diagrams IEC	78	1
+C.15	-BC1	EK1101	ETHERCAT - COUPLER WITH ID SWITCH	BECKHOFF	Circuit Diagrams IEC	78	3
+C.15	-X1	EL9185	ETHERCAT - POTENTIAL DISTRIBUTION TERMINAL, 4x24VDC, 4x0VDC	BECKHOFF	Circuit Diagrams IEC	78	4
+C.15	-DI1	EL1004	ETHERCAT - 4-CHANNEL DIGITAL INPUT	BECKHOFF	Circuit Diagrams IEC	78	5
+C.15	-DOR1	EL2624	ETHERCAT - 4-CHANNEL RELAY OUTPUT	BECKHOFF	Circuit Diagrams IEC	78	5
+C.15	-AIO1	EL4374	ETHERCAT - 2-CHANNEL ANALOG INPUT + 2-CHANNEL ANALOG OUTPUT	BECKHOFF	Circuit Diagrams IEC	78	6
+C.15	-AIP1	EL3453	ETHERCAT - 3-CHANNEL ANALOG INPUT, POWER MEASUREMENT	BECKHOFF	Circuit Diagrams IEC	78	6
+CAL-PM box	-EC8	EK1122	ETHERCAT - 2-PORT ETHERCAT JUNCTION	BECKHOFF	Circuit Diagrams IEC	78	9
+C.15	-US1	Ultra-Trak 750	Ultrasonic sensor, vibration sensor	UE SYSTEMS	Circuit Diagrams IEC	81	2
+C.15	-F2	ETIMAT 6 3p C6	Circuit breaker C 6A 3-pole	ETI	Circuit Diagrams IEC	82	4
+C.15	-B2	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	82	5
+C.15	-B1	CT	Current transformer 500/5A	_UNDEFINED	Circuit Diagrams IEC	82	5



Project:
CALMS CAL-PM-X Device

Drawing no.:
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Revision:

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9

List of Components

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