

Field Components (Electrical)

Sr #	Device with Details	Functional Description
1	Rotary Geared CAM Limit Switch Quantity: 2 Make and model to be decided after finalization of hoist motor speed and travel i.e. gear ratio	Hoist 1: Up Limit
		Hoist 1: Down Limit
		Hoist 2: Up Limit
		Hoist 2: Down Limit
2	Roller Lever Limit Switch with 1 NO + 1 NC Contact Quantity: 30 Make: Telemecanique Product Code: XCKL121	Hoist 1: Left Rope Limit
		Hoist 1: Right Rope Limit
		Hoist 1: Left Rope Break
		Hoist 1: Right Rope Break
		Hoist 1: Rope Pile-Up
		Hoist 1: Gripper Open
		Hoist 1: By-Hand Operation Active
		Hoist 1: High Speed Break
		Hoist 2: Left Rope Limit
		Hoist 2: Right Rope Limit
		Hoist 2: Left Rope Break
		Hoist 2: Right Rope Break
		Hoist 2: Rope Pile-Up
		Hoist 2: Gripper Open
		Hoist 2: By-Hand Operation Active
		Hoist 2: High Speed Break
		Hoist: Drum Break
		Bridge: Forward Stop
		Bridge: Backward Stop

		Bridge: By-Hand Operation Active (Motor 1)
		Bridge: By-Hand Operation Active (Motor 2)
		Bridge: Brake
		Trolley: Left Stop
		Trolley: Right Stop
		Trolley: By-Hand Operation Active
		Trolley: Brake
3	Differential Thermal Overload Relay, TeSys (2.6-3.7A) Make: Schneider Quantity: 3 Product Code: LR2K0310	Bridge: Cooling Motors Overload Hoist: Cooling Motors Overload
4	Differential Thermal Overload Relay, TeSys (1.2-1.8A) Make: Schneider Quantity: 2 Product Code: LR2K0307	Trolley: Cooling Motor Overload
5	Load Cell, SIWAREX WL250 (S-Type, 10 Tons) Quantity: 3 Make: Siemens Product Code: 7MH5105-5AD00	For Measurement of Load Connected to Spreader Beam
6	Eye Bolts for SIWAREX Load Cell Quantity: 6 Specifications: M30 x 2 with the SWL of 10 Tons	Accessory for Mechanical Connection of Load Cell

Remote Control + Indications

Sr #	Device with Details	Functional Description
For wireless crane control in manual as well as semi-automatic mode, Telecrane F24-60+ transmitter is being used with actuators mentioned below:		
1	3-Position Selector Switch Quantity: 2	Operation Mode: Maintenance/Bypass
		Operation Mode: Manual
		Operation Mode: Semi-Auto
		Mechanism Selection: Bridge / Position Group: L
		Mechanism Selection: Hoist / Position Group: S
		Mechanism Selection: Trolley / Position: Service Area
2	Push Buttons Quantity: 6	Position Selection: S1/L1
		Position Selection: S2/L2
		Position Selection: S3
		Position Selection: S4
		Operation Start
		Operation Stop
3	2-Position Selector Switch Quantity: 2	Fault Acknowledge ON/OFF
		Config Data 1/2
5	Emergency Stop Push Button Quantity: 2	Emergency Stop + Latch
6	Quad-Direction Control Grip Quantity: 1	Bridge: Forward
		Bridge: Backward
		Trolley: Left
		Trolley: Right
		Bridge + Trolley: Direction

7	Quad-Directional Control Grip Quantity: 1	Hoist: Up Hoist: Down Hoist: Direction
8	Rotary Key Switch Quantity: 1	Transmitter Power ON/OFF
9	Harmony Pilot Light, 22mm (24 V AC/DC) Make: Schneider Product Code (Red-3): XB4BVB4 Product Code (Yellow-3): XB4BVB5 Product Code (Blue-9): XB4BVB6 Product Code (Green-3): XB4BVB3	Hoist: Over Weight (Red)
		Hoist: Loose Weight (Red)
		Hoist: Gripper Open (Yellow)
		System Bypass (Yellow)
		System Warning (Yellow)
		System Ready (Green)
		Mechanism Selection: Bridge (Blue)
		Mechanism Selection: Trolley (Blue)
		Mechanism Selection: Hoist (Blue)
		Operation Mode: Maintenance (Blue)
		Operation Mode: Manual (Blue)
		Operation Mode: Semi-Auto (Blue)
10	Warning Lamp with Bracket (K37 Plug) Quantity: 2 Make: Werma Order Code (Lamp): 698.210.75 Order Code (Bracket): 960.698.05	Status: +ve Run Status: -ve Run Status: Stop
11	Red Alarm Light with Buzzer Quantity: 2 Make: Werma Order Code: 450.100.55	System Fault / Alarm

Control System Components

Sr #	Component and Description	Product Code	Make	Quantity
1	DIN Rail, 35mm Height, 480mm Length	NSYCS500PLM	Schneider	TBD
2	Simatic S7-300 Mounting Rail, 482mm Length	6ES7390-1AE80-0AA0	Siemens	3
3	Power Supply, PS 307 (5 A)	6ES7307-1EA01-0AA0	Siemens	4
4	Power Supply, PS 307 (10 A)	6ES7307-1KA02-0AA0	Siemens	2
5	Power Supply Connectors (10 units)	6ES7391-1AA00-0AA0	Siemens	2
6	SIMATIC CPU, 317-2 PN/DP	6ES7317-2EK14-0AB0	Siemens	1
7	Memory Card, SIMATIC (2 MB)	6ES7953-8LL31-0AA0	Siemens	2
8	Back Plane Connectors	6ES7390-0AA00-0AA0	Siemens	14
9	RS-485 Profibus DP Bus Connector	6ES7972-0BA52-0XA0	Siemens	14
10	RS-485 Bus Connector, Fast Connect (180°)	6GK1500-0FC10	Siemens	4
11	Profibus FC Standard Cable (200 m)	6XV1830-0ET20	Siemens	1
12	Digital Input 16 DI, DC 24 V, Input Delay 0.05 ms	6ES7321-1BH10-0AA0	Siemens	8
13	Digital Output 16 RO, 24-230 V	6ES7322-1HH01-0AA0	Siemens	4
14	Front Connector with Screw Contacts, 20-Pole	6ES7392-1AJ00-0AA0	Siemens	12
15	IM 153-1 for ET-200M Profibus DP	6ES7153-1AA03-0XB0	Siemens	2
16	Absolute Value Encoder (Profibus DP)	6FX2001-5FP24	Siemens	4
17	Weighing Terminal (IND 570)	Specifications: Panel Mount, 24 VDC, Analog Scale, Profibus DP connectivity, 2 Inputs and 5 Outputs	Mettler Toledo	1

Drives and Power Accessories

Sr #	Component and Description	Product Code	Make	Quantity
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1	Sinamics G-120 Power Unit (1.1 KW) with Braking Resistor, Line and Output Reactor	Power Unit: 6SL3210-1PE13-2AL1 Line Reactor: 6SL3203-0CE13-2AA0 Output Reactor: 6SL3202-0AE16-1CA0 Braking Resistor: 6SL3201-0BE14-3AA0	Siemens	4
				4
				4
2	Control Unit CU240E-2 DP	6SL3244-0BB12-1PA1	Siemens	6
3	Basic Operator Panel	6SL3255-0AA00-4CA1	Siemens	6
4	Sinamics G-120 Power Unit (7.5 KW) with Braking Resistor, Line and Output Reactor	Power Unit: 6SL3210-1PE21-8UL0 Line Reactor: 6SL3203-0CE21-8AA0 Output Reactor: 6SL3202-0AE21-8CA0 Braking Resistor: 6SL3201-0BE21-8AA0	Siemens	2
				2
				2
5	Single Phase Transformer, 415 V/ 230 V, 400 VA (In case of availability, it can be manufactured locally with same specifications)	2CSM201073R0801	ABB	3
6	TeSys Fuse Carrier for Hoist Supply, 3-Pole, 32 A	DF103V	Schneider	3
7	NFC Fuse Cartridge, 500 VAC, 32 A	DF2EN32	Schneider	9
8	TeSys Fuse Carrier for Bridge and Trolley, 3-Pole, 25 A	DF83V	Schneider	4
9	NFC Fuse Cartridge, 500 VAC, 16 A	DF2BN1600	Schneider	12
10	Harmony Pre-Assembled Relay, 24V DC, 4 CO Contacts	RXM4AB2BDPVM	Schneider	18
11	Harmony Pre-Assembled Relay, 230V AC, 4 CO Contacts	RXM4AB1P7PVS	Schneider	2
12	3-Pole Miniature Circuit Breaker, 400 V (Class B, 40 A)	EZ9F14340	Schneider	2
13	3-Pole Miniature Circuit Breaker, 400 V (ClassB, 16 A)	EZ9F14316	Schneider	2
14	3-Pole Miniature Circuit Breaker, 400 V (Class B, 10 A)	EZ9F14310	Schneider	4
15	3-Pole Miniature Circuit Breaker, 400 V (Class C, 10 A)	EZ9F56310	Schneider	4
16	3-Pole Miniature Circuit Breaker, 400 V (Class C, 6 A)	EZ9F56306	Schneider	6
17	1-Pole Miniature circuit breaker, 230 V AC (Class C, 2 A)	EZ9F43102	Schneider	18
18	TeSys D 3-Phase Contactor (1 NO + 1 NC Contacts) Out: 440 V & 80 A (AC-1), In: 230V AC	LC1D50AP7	Schneider	1
19	TeSys D 3-Phase Contactor (1 NO + 1 NC Contacts)	LC1D12P7	Schneider	2

19	Out: 440 V & 25 A (AC-1), In: 230V AC	LC1D12F7	Schneider	3
20	TeSys K 3-Phase Contactor (1 NO Contact) Out: 440 V & 20 A (AC-1), In: 230V AC	LC1K0610P7S335	Schneider	12
21	Brake Relay (for Direct Brake Activation by the Control Unit)	6SL3252-0BB00-0AA0	Siemens	4
22	Terminal Blocks (Make and quantity to be decided after selection of wires during cabinet design)			