FORKLIFT

SERVICE MANUAL

20,25EPR-X

HYUNDAI

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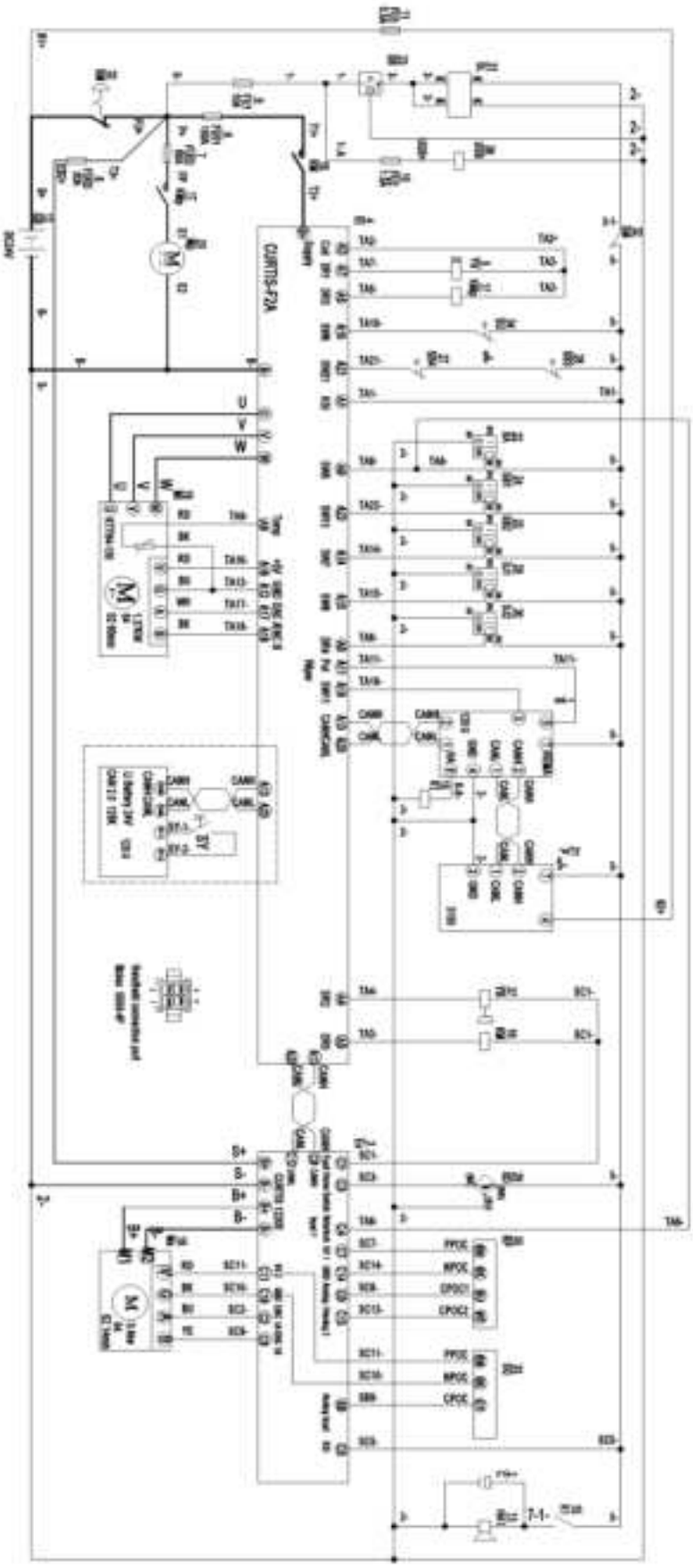
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Table1: Main technical data for standard version

Type sheet for industrial truck acc. to VDI 2198					
Distinguishing mark	1.2	Manufacturer`s type designation		20EPR-X	25EPR-X
	1.3	Power(battery,diesel,petrol gas,manual)		Electric	
	1.4	Operator type		Pedestrian/ Stand	
	1.5	Load Capacity / rated load	Q (t)	2.0	2.5
	1.6	Load center distance	c (mm)	600	600
	1.8	Load distance, center of drive axle to fork	x (mm)	892 [1)]	892 [1)]
	1.9	Wheelbase	y (mm)	1330 [1) 2)]	1435 [1)]
Weight	2.1	Service weight	kg	650	820
	2.2	Axle loading, laden front/rear	kg	1110/1540	1370/1950
	2.3	Axle loading, unladen front/ rear	kg	510/140	600/200
Tire, chassis	3.1	Tires		Polyurethane (PU)	
	3.2	Tire size, front	∅ x w (mm)	∅210X70	
	3.3	Tire size, rear	∅ x w (mm)	∅84×84	
	3.4	Additional wheels (dimensions)	∅ x w (mm)	∅100x40	
	3.5	Wheels, number front/ rear(x=driven wheels)		1x + 2/4	
	3.6	Tread, front	b_{10} (mm)	560	
	3.7	Tread, rear	b_{11} (mm)	367/512	
Dimensions	4.4	Lift height	h_3 (mm)	120	
	4.9	Height of tiller in drive position min. / max.	h_{14} (mm)	950/1350	
	4.15	Height, lowered	h_{13} (mm)	85	
	4.19	Overall length	l_1 (mm)	1790 [2) 3)]	1895
	4.20	Length to face of forks	l_2 (mm)	640 [2) 3)]	745 [3)]
	4.21	Overall width	b_1 (mm)	790	
	4.22	Fork dimensions	s/e/l (mm)	55/173/1150	
	4.25	Distance between fork-arms	b_5 (mm)	540/685	
	4.32	Ground clearance, center of wheelbase	m_2 (mm)	30	
	4.33	Aisle width for pallets 1000 x 1200 crossways	Ast (mm)	2400 [2) 3)]	2505 [3)]
	4.34	Aisle width for pallets 1000X1200 lengthways	Ast (mm)	2290 [2) 3)]	2395 [3)]
	4.35	Turning radius	Wa (mm)	1585 [2)3)]	1690 [3)]
Performance	5.1	Travel speed, laden/ unladen	km/h	7.0/8.0	6.0/7.0
	5.2	Lift speed, laden/ unladen	m/s	0.025/0.030	0.035/0.045
	5.3	Lowering speed, laden / unladen	m/s	0.030/0.025	0.045/0.050
	5.8	Gradeability, laden/ unladen	%	8/15	
	5.10	Service brake		Electromagnetic	
Motors	6.1	Drive motor rating S2 60min	kW	1.4	
	6.2	Lift motor rating at S3 10%	kW	0.8	2.2
	6.3	Battery acc. to DIN 43531 /35 / 36 A, B, C, no		/	/
	6.4	Battery voltage, nominal capacity K5	V/ Ah	24/210	24/350
	6.5	Battery weight (minimum)	kg	185	285
	6.6	Energy consumption acc. to VDI cycle	KWh/h	0.36	0.9
Others	8.1	Type of drive control		AC -Speed Control	
	8.4	Sound level at driver`s ear acc. to EN 12053	dB(A)	69	
1）Load section lowered:+65mm； 2）With side battery removal: + 30 mm； 3）With unfolded platform: + 440 mm					

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c. Wiring/Circuit diagrams



fuse 1: 10A
fuse 2: 1.5A
fuse 3: 0.5A
fuse 01: 150A
fuse 02: 80A
fuse 03: 30A

Fig. 11: circuit diagram **Curtis F2-A+EPS1220E**（Electric steering）EN1175 standard

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EPS 1220E Fault Code

FLASH CODE	NAME	POSSIBLE CAUSE	CLEAR CONDITION	STEER FAULT ACTION	TRACTION FAULT ACTION
12	Controller Overcurrent	1. The steer motor wires shorted. 2. Controller defective.	Cycle KSI	Shutdown	1 = Stop
13	Current Sense Fault	1. Controller defective.	Cycle KSI	Shutdown	1 = Stop
14	Precharge Fault	1. Controller defective.	Cycle KSI	Shutdown	1 = Stop
15	Controller Severe Undertemp	1. Controller is operating in extreme low temperature. 2. the temperature sensor is broken.	Heatsink temperature above -35°C.	Warning Only	3 = No Action
16	Controller Severe Overtemp	1. Excessive load on vehicle. 2. Controller is operating in extreme high temperature. 3. Improper mounting of controller.	Cycle KSI	Warning then Shutdown	1 = Stop
17	Severe Undervoltage	1. Battery or battery cables or battery connections defective. 2. Excessive non-controller hydraulic system drain on battery. 3. Battery discharged or improper battery.	Cycle KSI	Shutdown	1 = Stop
18	Severe Overvoltage	1. Battery or battery cable resistance too high for a given regen current. 2. Battery disconnected while regen braking.	Cycle KSI	Shutdown	1 = Stop
23	Motor Polarity Fault	1. The motor polarity is reversed. 2. The position feedback device polarity is reversed.	Cycle KSI	Shutdown	1 = Stop
24	5V Supply Failure	1. Overload for the 5V supply 2. Controller defective 3. Load wiring open for the 5V supply	Cycle KSI	Hold then Shutdown	1= Stop
25	12V Supply Failure	1. Overload for the 12V supply 2. Controller defective	Cycle KSI	Warning then Shutdown	1= Stop
26	Motor Temp Hot Cutback	1. Excessive load on vehicle. 2. Controller is operating in extreme high temperature.	Bring Steering Motor temperature backs to range.	Warning and Reduce Current Limit	2 = Reduce Speed
31	Main Driver Fault	1. Internal relay coil is broken. 2. Internal relay driver is open or shorted.	Cycle KSI	Warning then Shutdown	1 = Stop

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h. Wheel replacement procedure

1). Drive wheel

Lift the truck with help of hydraulic jack	
Unscrew five nuts holding the tire	
Remove the tire	
Assemble back with reversed order	Torque for nuts 90Nm

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d. Identification plate

1 Designation, type
2 Serial number
3 Rated capacities in kg
4 Supply voltage in V
5 Own mass (self weight) in kg without battery
6 Name and address of manufacturer)
7 Battery weight minimum/ maximum
8 Nominal power in kW
9 Load center distance
10 Manufacturing date
11 Option



Fig. 4: Identification plate

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