EGU-18 / EGU-20 / EGU-20S / EGU-H

Electric Pallet Truck



Workshop Manual

Valid from Series No.:	71 0117 0 00020
	71 0119 0 00028
	71 0125 0 00048
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General

Technical data

Identification							
Manufacturer							
Model designation			**EGU 18**	**EGU 20**	**EGU 20**	**EGU 20-S**	**EGU 20-S**
Drive: Battery, Diesel, petrol, LP gas, mains			battery	battery	battery	battery	battery
Operation: Manual, walkie, stand-on, driver seated, order picker			walkie	walkie	walkie	walkie, stand-on	walkie, stand-on
Load capacity/rated load		Q (kg)	1800	2000	2000	2000	2000
Load centre		c (mm)	600	600	600	600	600
Load distance		x (mm)	968	968	968	968	968
Wheel base		y (mm)	1320	1390	1454	1390	1454
Weights							
Dead weight	without battery	kg	285	293	310	348	365
Axle load with load	driver's side	kg	880	960	1010	995	1045
Axle load with load	load side	kg	1400	1545	1570	1565	1590
Axle load without load	driver's side	kg	390	405	455	440	490
Axle load without load	load side	kg	90	100	125	120	145
Wheels, chassis							
Tyres, superelastic (SE), pneumatic (L), polyurethane (P) Vulkollan (V)			V	V	V	V	V
Tyre dimensions	driver's side		230 x 75	230 x 75	230 x 75	230 x 75	230 x 75
Tyre dimensions	load side		85 x 100	85 x 80	85 x 80	85 x 80	85 x 80
Dimension of stabilizer wheels	driver's side		2 x Ø 100 x 40	2 x Ø 100 x 40	2 x Ø 100 x 40	2 x Ø 100 x 40	2 x Ø 100 x 40
Wheels, number front (x=driven)	front/rear		1x-2/2	1x-2/1	1x-2/1	1x-2/2	1x-2/4
Track width, front		b 10 (mm)	0	0	0	0	0
Track width, rear		b 11 (mm)	390	390	390	390	390
Overall dimensions							
Lift		h 3 (mm)	120	120	120	120	120
Tiller height	min/max	h 14 (mm)	692/1254	692/1254	692/1254	668/1117	668/1117
Fork height		h 13 (mm)	85	85	85	85	85
Overall length		l 1 (mm)	1660	1732	1794	1817/2207	1880/2270
Length	traction unit	l 2 (mm)	510	582	644	582	728
Overall width		b 1 (mm)	700	700	700	700	700
Fork thickness		s (mm)	52	52	52	52	52
Fork width		e (mm)	180	180	180	180	180
Fork length		l (mm)	1150	1150	1150	1150	1150
Outside fork distance		b 5 (mm)	560	560	560	560	560
Ground clearance	centre wheel base	m 2 (mm)	33	33	33	33	33
Aisle width with pallets 800 x 1200 long		Ast3 (mm)	1952	2022	2086	2092/2462	2154/2524
Turning radius		Wa (mm)	1533	1603	1667	1660/2031	1722/2095
Performances							
Driving	with load	km/h	5.8	5.8	5.8	5.08.2000	5.8
Driving	without load	km/h	6	6	6	6	6
Lifting	with load	m/s	0.04	0.04	0.04	0.04	0.04
Lifting	without load	m/s	0.054	0.054	0.054	0.054	0.054
Lowering	with load	m/s	0.04	0.04	0.04	0.04	0.04
Lowering	without load	m/s	0.04	0.04	0.04	0.04	0.04
Rated tractive force	with load	%	10	10	10	10	10
Rated tractive force	without load	%	20	20	20	20	20
Service brake			electro-mechanical	electro-mechanical	electro-mechanical	electro-mechanical	electro-mechanical
Electric motors							
Drive motor	performance S2 = 60 min	kW	1.2	1.2	1.2	1.2	1.2
Lift motor	performance S 3 = 15%	kW	2	2	2	2	2
Battery acc. to DIN 43531/35/36 A, B, C, no			no	DIN 43535 B	DIN 43535 B	DIN 43535 B	DIN 43535 B
Battery voltage		U (V)	24	24	24	24	24
Battery capacity		K 5 (Ah)	180	240	330	240	330
Battery weight	depending on supplier	kg (+/- 5%)	195	220	270	220	270
Energy consumption acc. to VDI cycle		kWh/h	-	-	-	-	-
Other specifications							
Speed control type			pulse control	pulse control	pulse control	pulse control	pulse control
Noise level	at driver's ear	dB (A)	-	-	-	-	-

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General

Technical data

Identification			
Manufacturer			
Manufacturer's model designation			**EGU-H**
Drive: Battery, Diesel, petrol, LP gas, mains			Battery
Operation: Manual, walkie, driver standing, driver seated, order picker			walkie
Load capacity/hoisted load		Q (kg)	2000/800
Load centre		c (mm)	600
Load distance		x (mm)	695
Wheel base		y (mm)	1158
Weights			
Dead weight	without batterie	kg	470
Axle load with load (800/2000kg)	driver's side	kg	558 / 688
Axle load with load (800/2000kg)	load side	kg	898 / 1968
Axle load without load	driver's side	kg	474
Axle load without load	load side	kg	182
Wheels, chassis			
Tyres, superelastic (SE), pneumatic (L), polyurethane (P)			V
Vulkollan (V)			
Tyre dimensions	driver's side		230 x 75
Tyre dimensions	load side		2 x (2x Ø 85 x 60)
Dimension of stabiliser wheels	driver's side		2 x Ø 100 x 4
Wheels, number front (x = driven)	front/rear		1x-2/4
Track width, front		b 10 (mm)	
Track width, rear		b 11 (mm)	
Overall dimensions			
Lift		h 3 (mm)	560
Initial lift		h 5 (mm)	120
Tiller height	min/max	h 14 (mm)	765 / 1255
Fork height		h 13 (mm)	91
Overall length		l 1 (mm)	1783
Length	drive section	l 2 (mm)	633
Overall width		b 1 (mm)	700
Fork thickness		s (mm)	55
Fork width		e (mm)	184
Fork length		l (mm)	1150
Fork carriage width		b 3 (mm)	625
Outside fork distance		b 5 (mm)	564
Ground clearance	centre wheel base	m 2 (mm)	20
Aisle width with pallets 800 x 1200 long		Ast3 (mm)	2061
Turning radius		Wa (mm)	1356
Performances			
Driving	with load	km/h	6
Driving	without load	km/h	6
Lifting (Main lift)	with load	m/s	0.28
Lifting (Main lift)	without load	m/s	0.16
Lifting (Initial lift)	with load	s	3
Lifting (Initial lift)	without load	s	2.4
Lowering (Main lift)	with load	m/s	0.16
Lowering (Main lift)	without load	m/s	0.14
Lowering (Initial lift)	with load	s	2.2
Lowering (Initial lift)	without load	s	2.3
Rated tractive force	with load	%	10
Rated tractive force	without load	%	20
Service brake			electro-magnetic
Electric motors			
Drive motor	performance S2 = 60 min	kW	1.2
Lift motor	performance S3 = 15%	kW	2
Battery acc. to DIN 43531/35/36 A, B, C, no			no
Battery voltage		U (V)	24
Battery capacity		K 5 (Ah)	190
Battery weight	depending on supplier	kg (+/- 5%)	185
Energy consumption acc. to VDI cycle		kWh/h	-
Other specifications			
Speed control type			Pulse control
Noise level	at driver's ear	dB (A)	68

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Legend for wiring diagram

A1	Controller
A11	Battery charger
A111	Diode panel
A2	Tiller head
F1	Pump fuse
F2	Traction motor fuse
F3	Controller fuse
F4	Composite instrument fuse
G1	Battery
4H1	Horn
K1	Traction contactor
K3	Pump contactor
K4	EGDS relay
M1	Traction motor
M2	Pump motor
6P20	Composite instrument
Rc	Heating resistor
S1	Key switch
1S1	Forward travel pushbutton
2S1	Lowering pushbutton
4S1	Horn pushbutton
2S2	Lifting pushbutton
S3	Tiller inclination transmitter
S5	Upper initial lift transmitter
S6	Main lift transmitter
S8	Initial lift pressure switch
1S30	Belly switch
2S80	Initial lift pushbutton
2S81	Lowering pushbutton
Y1	Lowering solenoid
Y2	Brake
Y5	Lifting device solenoid valve
Y6	Lowering solenoid valve

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Built-in charger

Technical data

General
These specifications characterise a charger developed by IES.

The charging curve, entirely controlled by a micro-controller, adapts automatically to batteries of 160 to 300 Ah capacity, even those subjected to heavy-duty use.

The charging time depends on the capacity of the battery being charged:

15 hours for 330 Ah capacity batteries
12 hours for 240 Ah capacity batteries
8 hours for 180 Ah capacity batteries
9 hours for 195 Ah capacity batteries

Energy conversion uses a cycle operating at 80 kHz.

Mechanical characteristics
Air input via ventilator with protective grid on top of charger.

Air output at rear.

Unit is fastened to baseplate by means of three 6 mm studs.

2.5 m mains lead on front panel.

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General conditions of utilisation
The on-board charger is continuously connected to the battery.

Storage temperature	-10 to +50°C
Operating temperature	0 to +40°C
Relative humidity	90%
Weight	2.2 kg
Volume	1.6 litres

Electrical characteristics

Input characteristics	
Rated input voltage	Mains 230 V +10/-15%
Mains frequency	50 Hz +/-1%
Feeder current (connection to mains)	limited by CNT
Output characteristics	
Max. output power	720 W +/-3%
Max. output current	30 A +/-2%
Rated battery voltage	24 V
U-range voltage tolerance	1%

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Diagnostics

Display	Description	Value
THROTTLE TYPE	Throttle type	1
THROTTLE DEADBAND	Throttle neutral deadband, as % of 5 kOhm pot	7
THROTTLE MAX	Throttle input req'd for 100% PWM, as % of 5 kOhm pot	100
THROTTLE MAP	Throttle map, as %	20
FIELD MIN	Minimum field current, in amps	8
FIELD MAX	Maximum field current, in amps	25
FIELD MAP START	Armature current at wich field map takes effect, in amps	75
FIELD MAP	Field current map setting, as % between field map start and 100% armature current	50
CURRENT RATIO	Current ratio: factor of 1, 2, 4 or 8	4
RESTRAINT	Ramp restraint: Field Min setting to 40 amps	10
LOAD COMPEN	Load compensation: 0 to 25 % PWM output	3
HPD	High pedal disable (HPD) type	2
SRO	Static return to off (SRO) type	0
SEQUENCING DLY	Sequencing delay, in %	1
MAIN CONT INTER	Main contactor uses interlock input	ON
MAIN OPEN DLY	Main contactor open delay	10
CONT DIAG	Contactor diagnostics	ON
AUX TYPE	Auxiliary driver type	1
EMR REV C/L	Emergency reverse current limit, in amps	200
AUX DLY	Auxiliary driver open delay, in seconds	0.2
EMR REV CHECK	Emergency reverse wiring check	ON
EMR DIR INTR	Emerg. reverse direction interlock	ON
VARIABLE BRAKE	Variable braking	ON
ANTI DIEDOWN	Anti-tiedown	OFF
POT LOW FAULT	Pot Low fault	ON
FAULT CODE	Fault code outputs 1 and 2	ON

Activation of 2 driving modes

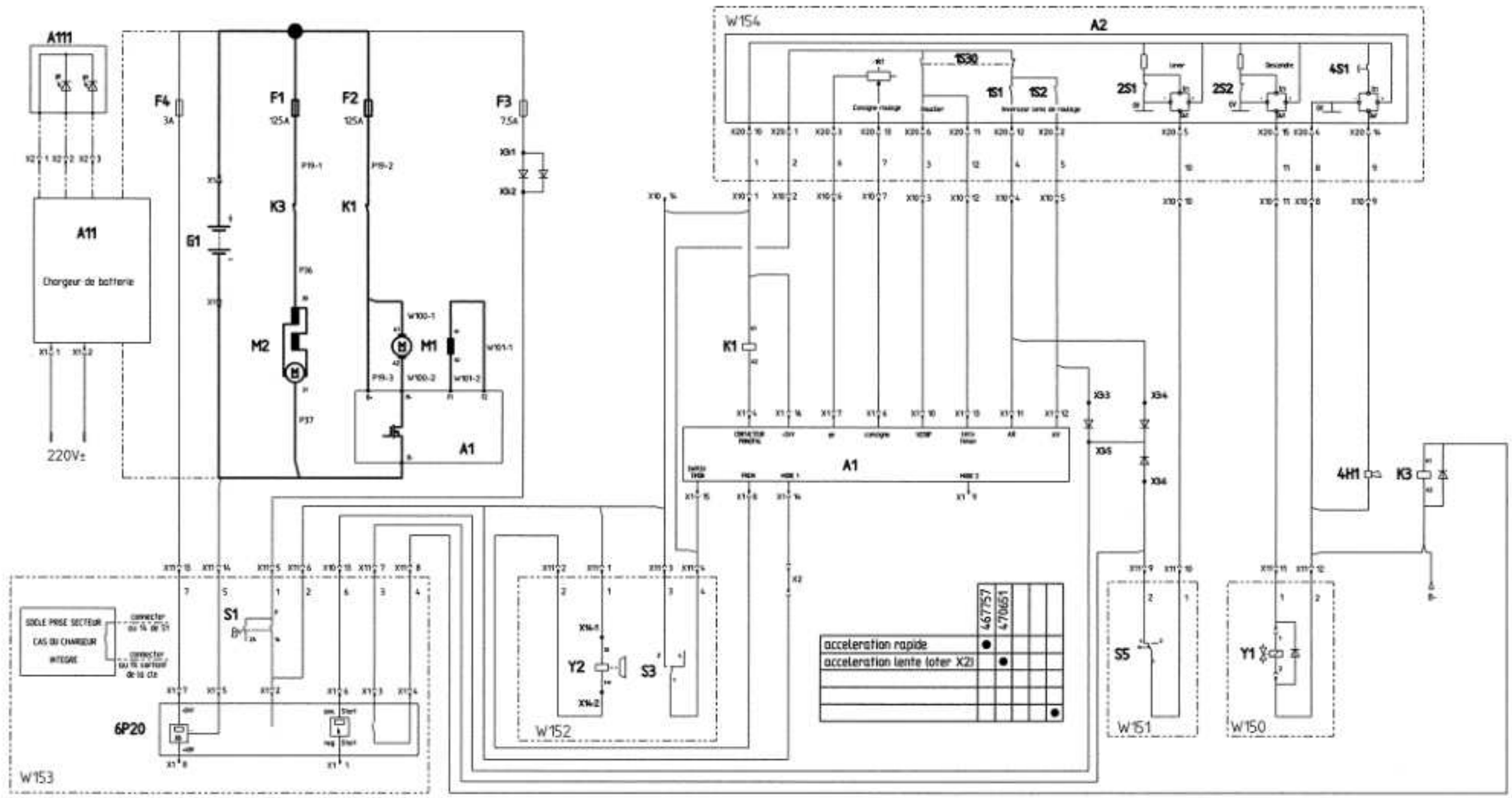
	TERMINAL 14	TERMINAL 9
MODE 1	0 V	0 V
MODE 2	+ 24 V	0 V

NOTE :
The models EGU-18/20/20S/H all have the same parameters.

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Wiring diagram
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