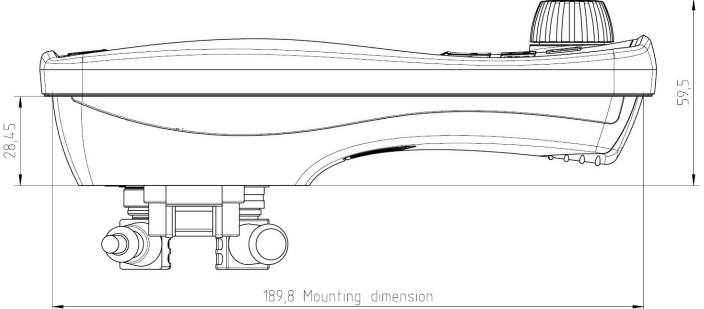
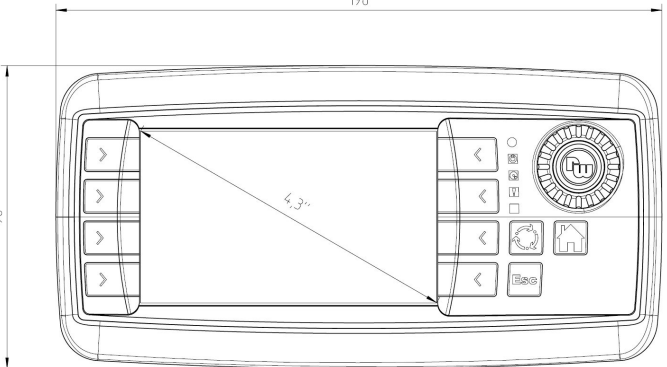
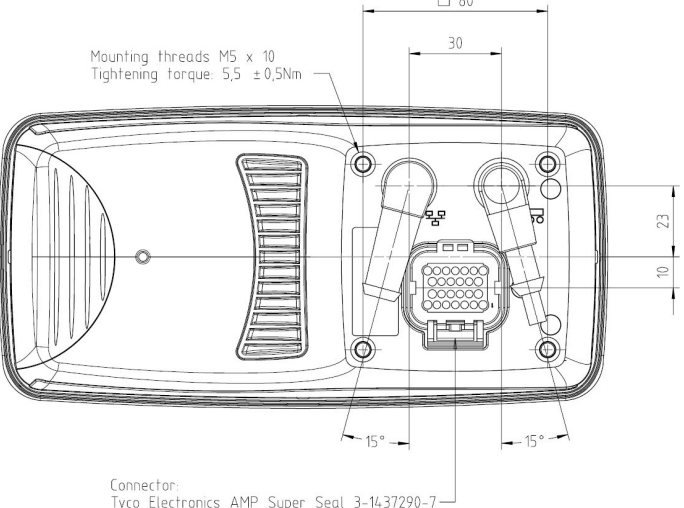


Technical Data Sheet
digsy _{HMI} 4 LB



1 Order information	
Part number	4885.86.042
2 Mechanical	
2.1 Dimensions	
	
	 <p>Mounting threads M5 x 10 Tightening torque: 5,5 ± 0,5Nm</p> <p>Connector: Tyco Electronics AMP Super Seal 3-1437290-7</p>

2.2 Housing	Plastic housing, coloured black, RAL 9005 with rubber frame, coloured charcoal-grey, RAL 7016
2.3 Mounting	<ul style="list-style-type: none"> • landscape or portrait • standalone • in-dash <p>Mounting accessories (not included):</p> <ul style="list-style-type: none"> • Build-in mounting frame, grey: 4305.86.041 • Standalone mounting adaptor, black: 4305.86.042
3 Display	
Type	TFT Colour Graphic LCD with LED backlight
Size	4.3", 95 mm (W) x 53 mm (H)
Resolution	480 x 272 pixel, WQVGA, 15:9
Colours	16.7 Mio.
Brightness	typ. 400 cd/m ²
Contrast Ratio	typ. 400:1
4 Input Devices	
4.1 Touch	-
4.2 Left Keypad	<ul style="list-style-type: none"> • 4 keys with tactile feedback • blue LED backlight • Lifetime 1.000.000 actuations
4.3 Right Keypad	<ul style="list-style-type: none"> • 4+3 keys with tactile feedback • blue LED backlight • Lifetime 1.000.000 actuations
4.4 Indicators and Sensors	<ul style="list-style-type: none"> • 1 Multicolour-LED • 2 Status-LED's • light sensor
4.5 Encoder	<ul style="list-style-type: none"> • electromechanical encoder with 16 mechanical detents and push function • lifetime: 1 million cycles
5 Electronics	
5.1 Processor platform	
CPU	Freescale I.MX35@, 532 MHz
Mass storage	512 Mbyte (approx. 450 MB for customer use)
RAM	128 MByte
RTC	buffered by gold cap
5.2 Interfaces	
5.2.1 Power supply	
Operating voltage range	9 ... 36 V DC
Protection	short circuit protection
Overvoltage resistance	48V for 2 minutes
Inverse polarity protection	up to -48 V DC

Current consumption (without external load), max	Power Mode	current at 13,5 V DC	current at 27 V
	On	430 mA	240 mA
	Low-power	160 mA	90 mA
	Sleep	90 mA	55 mA
	Off	0	0
5.2.2 Can Interfaces	<ul style="list-style-type: none"> • 2 x CAN-Interfaces • ISO 11898, CAN-specification 2.0 B active, • up to 1 Mbit/s (default 250 Kbit/s, 500 Kbit/s, 750 Kbit/s and 1 Mbit/s) 		
5.2.3 RS232	1 x RS232-Interface		
Type	EIA232 (only RxD, TxD, GND)		
Speed	max. 115 Kbps		
5.2.4 USB	Host 2.0		
Main connector	1 x Full speed		
6 Connections			
Main connector	Part no. connector set: 4305.86.001 Tyco-AMP 1437288-6 <ul style="list-style-type: none"> • Mating connector (customer) Tyco-AMP 3-1437290-7 • Mating crimp contact (customer) Tyco AMP 3-1447221-4 		
Connector pinout	see chap. 9.		
7 Software			
1.1 Operating System	Linux, kernel 2.6.28		
1.2 Application Programming	CODESYS-Tools (3.5)		
8 Testing and Verification			
8.1 CE-Compliance	EU Directive 2004/108/EC (EMC) according to <ul style="list-style-type: none"> • EN 12895: Industrial Trucks – Electromagnetic compatibility • EN 13309: Construction machinery – Electromagnetic compatibility of machines with internal electrical power supply • EN ISO 14982: Agricultural and forestry machinery - Electromagnetic compatibility - Test methods and acceptance criteria 		
8.2 e1 - Type approval	EU Directive 72/245/EWG (1-Jan 2013)		
8.3 Protection Level (IP Code)	IP 6k5 and 6k7 according to ISO 20653: Road Vehicles – Degrees of protection (IP-Code) – Protection of electrical equipment against foreign objects, water and access		
8.4 Electrical Requirements	12 and 24V-Systems according to: <ul style="list-style-type: none"> • ISO 16750-2: Road Vehicles – Environmental conditions and testing for electrical and electronic equipment – Electrical loads • ISO 15003: Agricultural Engineering – Electrical and electronic equipment – Testing resistance to environmental conditions 		
8.5 Mechanical Requirements	<ul style="list-style-type: none"> • According to ISO 16750-3: Road Vehicles – Environmental conditions and testing for electrical and electronic equipment – Mechanical loads, Code L • ISO 15003: Agricultural Engineering – Electrical and electronic equipment – Testing resistance to environmental conditions <ul style="list-style-type: none"> ○ Mechanical Shock: Level 2 ○ Random Vibration: Level 2 ○ Sinusoidal Vibration: Level 2 		

8.6 Climate Requirements	<ul style="list-style-type: none"> • According to ISO 16750-4: Road Vehicles – Environmental conditions and testing for electrical and electronic equipment – Climatic Loads <ul style="list-style-type: none"> ○ Operating Temperature Range: -30 ... +65°C ○ Storage Temperature Range: -40 ... +85°C • ISO 15003: Agricultural Engineering – Electrical and electronic equipment – Testing resistance to environmental conditions 																																																																																	
9 Pinout																																																																																		
9.1 Main connector pinout	<table border="1"> <thead> <tr> <th>pin no.</th> <th>assignment</th> <th>description</th> </tr> </thead> <tbody> <tr><td>1</td><td>VCC</td><td>supply voltage +; terminal 30</td></tr> <tr><td>2</td><td>Ignition Input</td><td>ignition input; terminal 15</td></tr> <tr><td>3</td><td>GND</td><td>supply voltage - ;terminal 31</td></tr> <tr><td>4</td><td>CarGND</td><td>car ground</td></tr> <tr><td>5</td><td>n. c.</td><td>not connected</td></tr> <tr><td>6</td><td>n. c.</td><td>not connected</td></tr> <tr><td>7</td><td>n. c.</td><td>not connected</td></tr> <tr><td>8</td><td>CAN1H</td><td>CAN 1 high</td></tr> <tr><td>9</td><td>CAN1L</td><td>CAN 1 low</td></tr> <tr><td>10</td><td>CAN2H</td><td>CAN 2 high</td></tr> <tr><td>11</td><td>CAN2L</td><td>CAN 2 low</td></tr> <tr><td>12</td><td>USB_VCC</td><td>USB +5 V DC supply</td></tr> <tr><td>13</td><td>USB_GND</td><td>USB supply ground</td></tr> <tr><td>14</td><td>USB_D-</td><td>USB data line -</td></tr> <tr><td>15</td><td>USB_D+</td><td>USB data line +</td></tr> <tr><td>16</td><td>RS232: RxD</td><td>RS232 receive data</td></tr> <tr><td>17</td><td>RS232: TxD</td><td>RS232 transmit data</td></tr> <tr><td>18</td><td>RS232: GND</td><td>RS232 ground</td></tr> <tr><td>19</td><td>n. c.</td><td>not connected</td></tr> <tr><td>20</td><td>n. c.</td><td>not connected</td></tr> <tr><td>21</td><td>n. c.</td><td>not connected</td></tr> <tr><td>22</td><td>n. c.</td><td>not connected</td></tr> <tr><td>23</td><td>SERV_EN</td><td>service enable</td></tr> <tr><td>24</td><td>n. c.</td><td>not connected</td></tr> <tr><td>25</td><td>n. c.</td><td>not connected</td></tr> <tr><td>26</td><td>n. c.</td><td>not connected</td></tr> </tbody> </table>	pin no.	assignment	description	1	VCC	supply voltage +; terminal 30	2	Ignition Input	ignition input; terminal 15	3	GND	supply voltage - ;terminal 31	4	CarGND	car ground	5	n. c.	not connected	6	n. c.	not connected	7	n. c.	not connected	8	CAN1H	CAN 1 high	9	CAN1L	CAN 1 low	10	CAN2H	CAN 2 high	11	CAN2L	CAN 2 low	12	USB_VCC	USB +5 V DC supply	13	USB_GND	USB supply ground	14	USB_D-	USB data line -	15	USB_D+	USB data line +	16	RS232: RxD	RS232 receive data	17	RS232: TxD	RS232 transmit data	18	RS232: GND	RS232 ground	19	n. c.	not connected	20	n. c.	not connected	21	n. c.	not connected	22	n. c.	not connected	23	SERV_EN	service enable	24	n. c.	not connected	25	n. c.	not connected	26	n. c.	not connected
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