

The 820971 LDI (Large Display Interface) Evaluation Kit consist of:

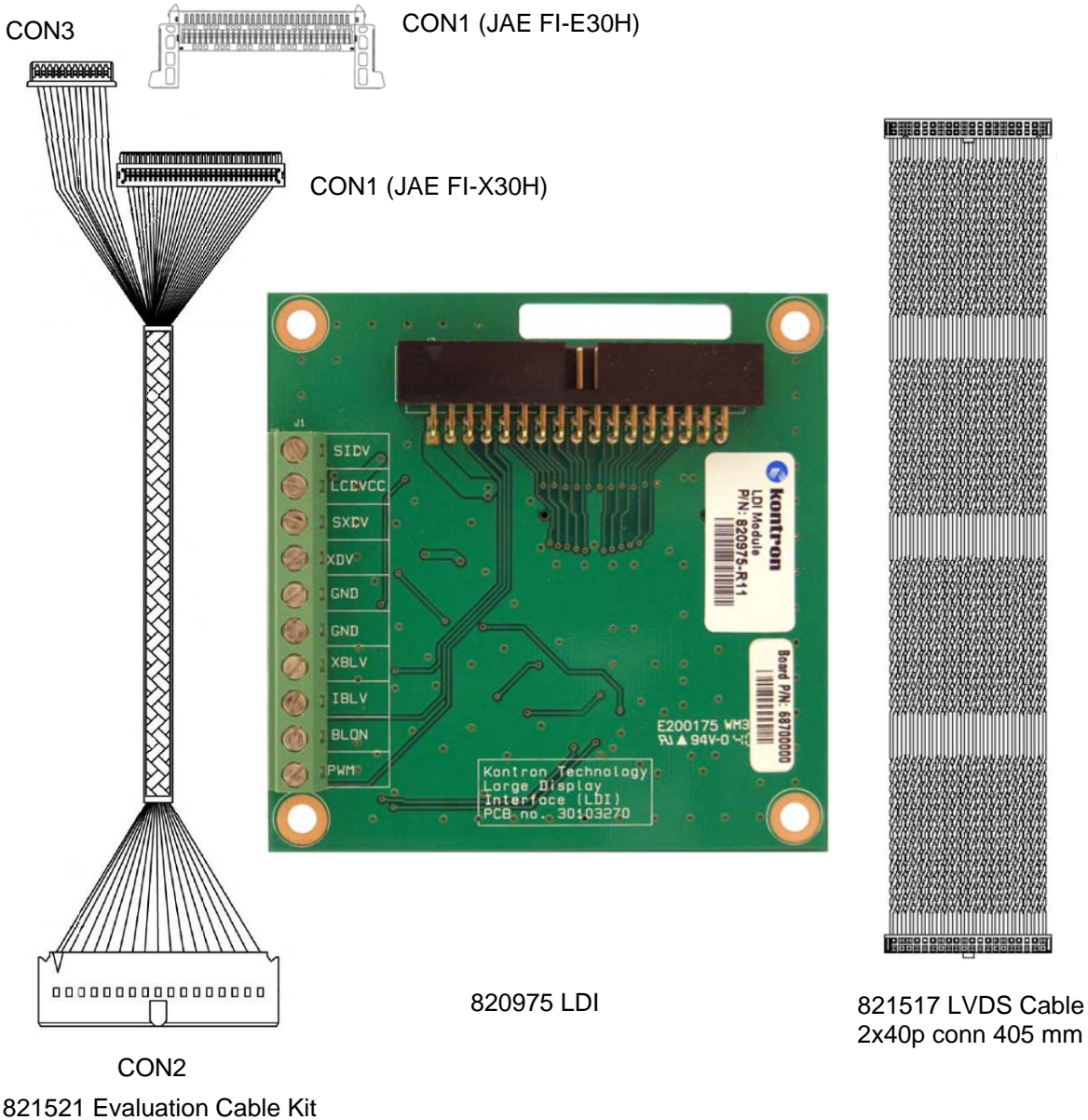
- 820975 LDI module
- 821521 Evaluation Cable Kit
- 821517 LVDS Cable 2x40p conn 405 mm  
(or 1027-3591 same as 821517 but with Pull-Tab)



The CON1 on the 821521 is based on JAE FI-X30H display connector. By carefully moving the terminals in according to this document it is possible to support many different panels from 17" and up. As an extra option it is possible to replace the FI-X30H housing with a FI-E30H housing (using same terminals) and then add support for more displays.

In this document it is described which displays are supported by referring to a CON1 configuration number Cfg. 1 – Cfg. 11 (Cfg. 1 is default 821521 configuration) and optionally which inverters are supported by referring to a CON3 configuration letter Cfg. A – Cfg. F. (Cfg. A is default 821521 configuration).

**Items:**



820975 LDI

821517 LVDS Cable  
2x40p conn 405 mm

821521 Evaluation Cable Kit



When the CON1 and optionally CON3 are configured as requested then the Cable kit can be assembled and it will look like this:

To the Inverter connector  
(If relevant/possible)

To the Display connector

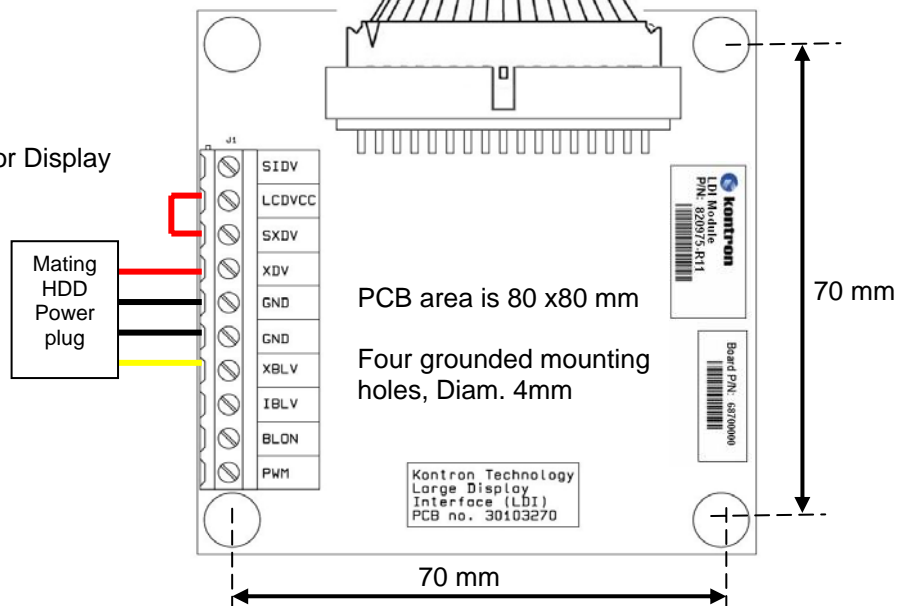
The total length of the cable kit is almost 1 m.  
In case the cable length shall be increased then the 821517 can be replaced with longer cable. By use of the 821155 and the 910000005 "LVDS Connector for cable" the total length can be selected up to 1.6 m.

The J1 on the LDI Module contains the following terminals :

- T1. SIDV (**S**elect **I**nternal **D**isplay **V**oltage)
- T2. LCDVCC Display Voltage,  
connect to T1 and leave T3 and T4 unconnected  
or connect to T3 and connect external voltage to T4.
- T3. SXDV (**S**elect **e**Xternal **D**isplay **V**oltage)
- T4. XDV (**e**Xternal **D**isplay **V**oltage) input power.  
5 – 30V /4A max.
- T5. GND
- T6. GND
- T7. XBLV (**e**Xternal **B**ack **L**ight **V**oltage) input power.  
5 – 30V /4A max.
- T8. IBLV (**I**nternal **B**ack **L**ight **V**oltage) if this 12V/2.2A is  
sufficient then connect it to T7 instead of external  
voltage.
- T9. BLON (**B**ack **L**ight **O**N) output TTL level signal.  
(Option for external Power Supply).
- T10. PWM (**P**ulse **W**idth **M**odulator) Analogue output voltage.  
0 – 3V / 1mA. (Option for intensity control etc.)  
(NOT supported on PN 68700000)

To the LVDS connector on MB

Typical connection to J1 is 5V for Display and 12V for Back Light.



**Supported Displays Using JAE FI-X30H:**

Display type	IDV	XDV	Cfg	Remarks
AUO M170EG01	-	5V / 1.6A (2.5A)	2	
AUO M185XW01	5V / ?	-	10	
AUO M190EG01	-	5V / 2A (3A)	2	
AUO M190EG02	-	5V / 1.4A (2.5A)	2	
AUO G220SW01	-	5V / 1.3A (3A)	3	
Boe Hydis HT17E12-200	5V / 0.7A	-	3	XDV same as IDV
Boe Hydis HT190WG1-600	-	5V / 1.1A (3A)	3	
Chi Mei M190A1-L02	5V / 1A	-	3	
Chi Mei V230W1-L02	-	5V / >1.2A (1.8A)	9	
Chi Mei V320B1-L01	-	5V / >1.5A (1.7A)	9	
Fujitsu FLC48SXC8V-11AA	-	5V / 1.5A (3.5A)	3	
Hitachi TX43**VM**	5V / 0.9A	-	8	
LG.Philips LM170E01	5V / 0.5A	-	3	XDV same as IDV
LG.Philips LM201U03	-	18V / 0.4A (3.0A)	6	Ready to use cable is 821522
LG.Philips LM201U04	-	18V / 0.4A (3.0A)	6	Ready to use cable is 821522
LG.Philips LM201U05	-	18V / 0.6A (3.0A)	7	Cable 821522 move pin 6 to pin 30
LG.Philips LC320W01	-	12V / 0.7A (3.0A)	8	
LG.Philips LC320W01	-	12V / 0.8A (3.0A)	8	
LG.Philips LD320WXN	-	12V / 0.8A (3.0A)	8	
LG.Philips LM220WE4	-	5V / 2.0A (3.0A)	3	
LG.Philips LM260WU1-SLB1	-	12V / 0.9A (3.0A)	3	CUT WIRE TO PIN 28
Samsung LTM170E5-L03	5V / 1.0A	-	3	XDV same as IDV
Samsung LTM170E6-L02	5V / 1.0A	-	3	XDV same as IDV
Samsung LTM181E4-L01	-	5V / 1.2A (4.0A)	3	
Samsung LTM170EH-L01	5V / 0.6A	-	5	XDV same as IDV
Samsung LTM170EU-L21	5V / 0.9A	-	5	XDV same as IDV
Samsung LTM190E1-L01	5V / 1.0A	-	3	
Samsung LTM190EP01	-	5V / 1.4A	3	
Samsung LTM190EX-L31	5V / 0.9A	-	3	XDV same as IDV
Samsung LTM190M2-L01	-	5V / ?A (3.0A)	5	
Samsung LTM190M2-L31	5V / 0.9A	-	3	XDV same as IDV
Samsung LTM201U1-L01	-	5V / 1.9A (4.0A)	4	Ready to use cable is 821522
Samsung LTM213U6-L01	-	5V / 1.6A (4.0A)	4	Ready to use cable is 821522
Samsung LTM220M1-L01	-	5V / 1.9A (4A)	3	
Samsung LTM220M3-L02	-	5V / 2.4A (5A)	3	
Sharp LK315T3LA29	-	5V / ~1.8A (4A)	8	
Sharp LQ170E1LG11	5V / 0.8A	-	3	XDV same as IDV
Sharp LQ190E1LW01	-	5V / 1.5A (3.5A)	3	
Sharp LQ190E1LW42	5V / 0.8A	-	3	OpenLDI driver when Cfg.=3
Sharp LQ315T3LZ28	-	5V / 1.8A (4A)	8	

**Supported Displays Using JAE FI-E30H:**

Display type	XDV	Inverter Power	Cfg	Remarks
AUO T315XW02	5V / 1.5A (6A)	24V / 4.6A**	10	*
Samsung LTA230W1-L02	5V / 1.8A (5A)	24V / 4A	10	
Samsung LTA320AA05	12V / 1.1A (4A)	24V / 4.1A**	10	
Samsung LTA320W2-L01	5V / 1.7A (4A)	16.5V / 5A**	10	
Samsung LTA320W2-L03	5V / 2A (4A)	24V / 5.4A**	10	
Samsung LTA320WT-L06	5V / 2.2A (4A)	24V / 5.5A**	10	
Samsung LTA440AA04	12V / 1.2A (4A)	24V / ?	10	
Samsung LTA460H2-L02	5V / 3.5A (6A)	24V / ?	11	
Samsung LTA460W2-L01	5V / 2.3A (6A)	24V / 9A**	10	
Samsung LTB230W1-L01	5V / 1.6A (5A)	24V / 5A**	10	
Samsung LTI320AA02	12V / 1.1A (4A)	24V / 3.8A	10	Available cable PN 1036-1003
Samsung LTI320WT-L07	5V / 2.2A (4A)	24V / 4.1A**	10	
Samsung LTI460AA03	12V / 1.0A (6A)	24V / 18A**	10	
Samsung LTI460WT-L02	12V / 1A (5A)	24V / 12A**	10	
Samsung LTI460WT-L13	5V / 2.6A (6A)	24V / 13A**	10	
Samsung LTI460WT-L15	5V / 2.6A (6A)	24V / 12A**	10	

\*) different version of T315XW02, some with different voltage and connectors.

\*\* ) Current for Inverter is too much for the LDI onboard power switch (4A maximum).

**Other cable kits supporting LDI Evaluation Kit (not included in the 820971)****Supported Displays Using JAE FI-E51H:**

Display type	XDV	Inverter Power	Cfg	Remarks
Samsung LTI400HA03 ***	12V / 1.2A (4A)	24V / 6.6A	-	Available cable PN 1036-1365

\*\*\* ) Inclusive inverter support.

**Supported Inverters**

When IBLV is Ok then connect terminal IBLV to XBLV otherwise connect specified voltage to XBLV.

Inverter type	Input power	IBLV	XBLV	Cfg	Remarks
Samsung SIC241T	11.5 – 12.5V / 1.3A	Ok		A	Note 1
INT IT20166A	12 – 18V / 3A	-	15V / 3A	B	Note 2
PIS AT-0170SS	11 – 13V / 2.2A	Ok		B	Note 1
Frontek FIF1942-32D	11 – 13V / 2.3A	Ok		B	Note 2
Frontek FIF1742-45A	11 – 13V / 1.9A	Ok		B	Note 1
Frontek FIF1742-57B	11.5 – 12.5V / 2.2A	Ok		B	Note 1
Green GCTT027	11.5 – 12.5V / 1.8A	Ok		B	Note 1
GH027	11.5 – 12.5V / 1.8A	Ok		B	Note 1
Frontek FIF2066-31A	14 – 18V / 2.9A	-	16V / 2.9A	B	Note 2
Fujitsu FLCV-13	11.4 – 12.6V / 2.5A	-	12V / 2.5A	D	Note 3
Microsemi LXM 1643 12-62	10.8 – 13.2V / 2A	Ok		E	
Frontek FIF1542-02A	11 – 13V / 2.2A	Ok		F	10-pole connector.

Note 1: The inverter has marked the pinning in reverse order.

Note 2: The inverter has marked the pinning in correct order.

Note 3: 8-pole connector. Using inverted Backlight Enable (meaning active low signal).



## Connectors Cross Reference

CON1:	JAE FI-X30H	JAE FI-E30H
Similar:	Foxconn LC2830-A11 JST LDYHP-30GV-Z LG Cable GT101-30P-CS STM P2407P30 TD1 TD00-30H UJU HP100-C30N-N15 UJU HS100-C30R-N15	?
Mates:	JAE FI-X30C2L JAE FI-X30HL JAE FI-X30H JAE FI-XB30H JAE FI-X30-S JAE FI-X30-S JAE FI-XB30-S Foxconn GS23302 Hirose MDF76K-30S-1H Hirose MDF76LR-30S-1H Hirose MDF76KBW-30S-1H Hirose MDF76LBRW-30S-1H JST SM30B-LD-YGS L&K HO-3643UI L&K 11LPF-005 L&K 11LPF-002 LG Cable GT101-30S-H LG Cable GT103-30S-H Longwell 915-001-1008R Longwell 915-002-1008R Longwell 915-003-1008R Longwell 915-201-1008R Longwell 915-202-1008R Longwell 915-203-1008R Starconn 093B30 Starconn 093C30 Starconn 093G30 Starconn 093F30 STM MSAKT2407P30 STM MSBKT2407P30 STM MSBK2407P30 STM MSCKT2407P30 Sunridge FPD-PIX-30-0 TD1 TD00-30R TD1 TD00-30LR UJU IP100-C30 UJU IS100-C30 UJU IP100-L30	JAE FI-E30S

CON2:

Mates: 68700000 LDI (Large Display Interface) module  
820935 ADD-LVDS

CON3: Molex 51021-1200

Mates: Molex 53261-1290  
YEN-HO 12505WR

**Cable Kit Configuration**

CON1 configuration Table

CON1 Configuration											CON2		Remarks
1 *	2	3	4	5	6	7	8	9	10	11	Pin	Function	
Pin	Pin	Pin	Pin	Pin	Pin	Pin	Pin	Pin	Pin	Pin	Pin	Function	Remarks
30	30	30	1	1	1	1	1	30	30	30	33, 34	LCDVCC	
29	29	29	2	2	2	2	2	29	29	29	33, 34	LCDVCC	
28	28	28	3	3	3	3	3	28	28	28	33, 34	LCDVCC	
26	-	-	4	-	4	4	4	27	27 (26)	27 (26)	33, 34	LCDVCC	
27	27	-	-	-	5	-	26	7	23	25	8	GND	
25	25	-	6	-	6	-	11	6	24	24	8	GND	
23	23	23	7	8	7	7	-	-	-	20	10	A7+	Pair # 10
22	22	22	8	9	8	8	-	-	-	19	9	A7-	Pair # 10
21	21	21	9	10	9	9	-	-	-	18	12	CLK2+	Pair # 9
20	20	20	10	11	10	10	-	-	-	17	11	CLK2-	Pair # 9
19	19	19	11	12	11	11	-	-	-	16	14	A6+	Pair # 8
18	18	18	12	13	12	12	-	-	-	15	13	A6-	Pair # 8
16	16	16	13	15	13	13	-	-	-	14	16	A5+	Pair # 7
15	15	15	14	16	14	14	-	-	-	13	15	A5-	Pair # 7
13	13	13	15	18	15	15	-	-	-	12	18	A4+	Pair # 6
12	12	12	16	19	16	16	-	-	-	11	17	A4-	Pair # 6
24	24	24	17	24	17	17	8	23	19	23	20	GND	
17	17	17	18	17	18	18	7	19	16	22	19	GND	
11	11	11	19	20	19	19	25	18	18	10	22	A3+	Pair # 5
10	10	10	20	21	20	20	24	17	17	9	21	A3-	Pair # 5
9	9	9	21	22	21	21	22	16	15	8	24	CLK1+	Pair # 4
8	8	8	22	23	22	22	21	15	14	7	23	CLK1-	Pair # 4
6	6	6	23	25	23	23	19	14	12	6	26	A2+	Pair # 3
5	5	5	24	26	24	24	18	13	11	5	25	A2-	Pair # 3
4	4	4	25	27	25	25	16	12	9	4	28	A1+	Pair # 2
3	3	3	26	28	26	26	15	11	8	3	27	A1-	Pair # 2
2	2	2	27	29	27	27	13	10	6	2	30	A0+	Pair # 1
1	1	1	28	30	28	28	12	9	5	1	29	A0-	Pair # 1
14	14	14	29	14	29	29	6	8	4 (7)	21	32	GND	
7	7	7	-	7	30	30	5	24	10 (13)	-	31	GND	

\* Default

Note: The pin no. in embraces means optional, normally not needed, and requires wire splitting.

CON3 Configuration Table

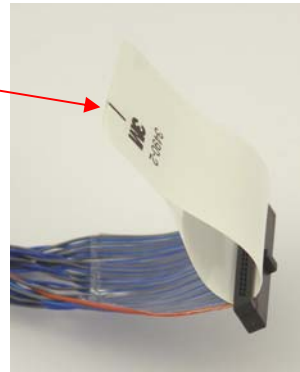
CON3 Configuration						CON2		Remarks
A *	B	C	D	E	F	Pin	Function	
Pin	Pin	Pin	Pin	Pin	Pin	Pin	Function	Remarks
1	1		1	1	-	1, 2	BLV	
2	2		2	2	10	1, 2	BLV	
3	3		3	3	9	1, 2	BLV	
4	4		4	4	8	4	GND	
5	5		5	5	7	4	GND	
6	-		-	-	-	5	5V or 3.3V	No Connection
7	7		6	6	-	4	GND	
8	8		-	-	4	4	GND	
9	9		7	9	5	7	BKLTEN	(2.4-5V)/(0.8 -0V) => On/Off
10	10		-	7	3	3	GND	
11	11		8	10	1	6	PMW	0-3.3V
12	12		-	-	-	3	GND	

\* Default



## Appendix

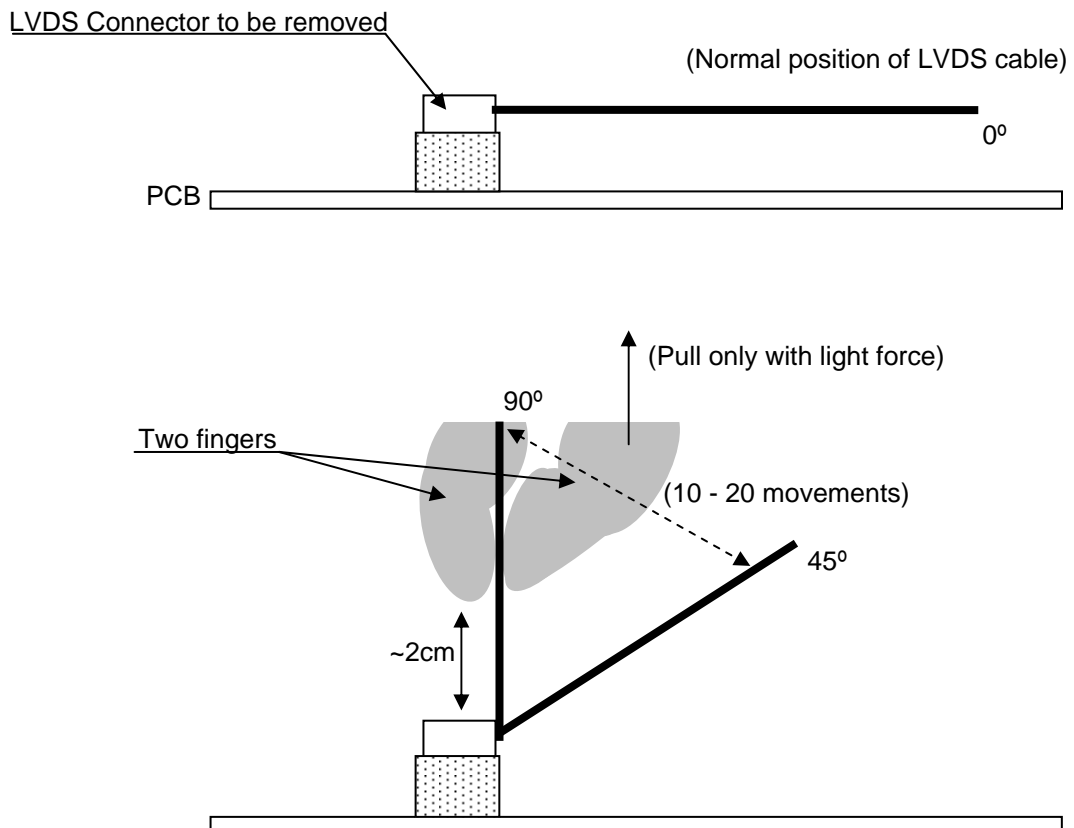
When pulling out the LVDS cable used the Pull-Tab



### If the cable kit has no Pull-Tab:

Removing the LVDS Cable/Connector used in different types of LVDS Cable Kits like 821517, can easily damage the LVDS connector if it's not done carefully, like just pulling the cable.

The best way to remove the connector is to pull the cable, but with only light force and at the same time move the cable from side to side, meaning from 45° to 90° position compared to normally 0°. See pictures below.



Hold the cable by 2 fingers in a position something like 2 cm from the connector and start moving the cable as described above. After something like 10-20 movements the connector will normally be released. When the connector starts to get loose be extra careful.

By this method the LVDS Cable/Connector can be disconnected hundred of times without being damaged.