



EDL Reeler System



- Delivering 24/7 support our people and equipment available at short notice.
- Experienced in house team of technicians and support staff
- Multiple units available
- Topside jumper cables available
- All equipment owned and supplied in house



Oil & Gas
Offshore Services

JDR's Electric Down Line (EDL) equipment is used primarily for subsea testing on new subsea installations and older assets, checking for insulation resistance and electrical fault finding.

The pneumatic powered reeler's are fully compliant with:

- Machinery Directive 2006/42/EC
- Pressure Equipment Directive 2014/68/EC
- ATEX Directive 2014/34/EU Declaration
- DNVGL Form CMC 201: 2.7-1 (EN 12079 Part 1 & 2)

Basic Reeler Specification

Line Pull	500kg @ 25m/min (First Layer)
Drum Capacity	Ø21.4mm x 364m on 6 Layers
Cable Length	340m
Working Pressure	8 Bar @ Inlet
Dimensions	1728mm (Length) x 1510mm (Width) x 1543mm (Height)

Weight

Net Mass	2000 kg
Max Gross Mass	2300 kg
Connections	
Air Supply	1" Dixon Crows Foot Coupling
Cable Supply	Electrical Connector

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CA02QSG Data Sheet

LV Signal and Power Cable 2.5 mm² Screened Twisted Armoured Quad

- **Use:** Subsea Umbilical
- **Manufacturing Location:** JDR Umbilical Systems Ltd (Littleport, UK)
- **Manufacturing Standard:** ISO 13628-5: 2009

Dimensional Data

Outer Jacket	17.00 +/- 0.50 mm
MBR	170 mm
Weight in Air	490 kg/km
Weight in Seawater	280 kg/km
GSW Armour	14.10 +/- 0.50 mm
Inner Jacket (Belt)	12.30 +/- 0.50 mm
Cabled Assembly	8.70 +/- 0.30 mm
Insulation	3.50 +/- 0.10 mm
Conductor	2.05 +/- 0.04 mm
Colour Coding	Red/Green/Blue/ Yellow

- **Copper Conductor:** IEC 60228 Class 2
- **Insulation Thickness:** IEC 60502-1
- **Qualification Tests:** ISO 13628-5: 2009
- **Acceptance Tests:** ISO 13628-5: 2009

ISO 13628-5: 2009 Qualification Test Data

Voltage Rating	0.6/1.0 kV
Insulation	XLPE
Electrical Screen (Tape)	Polyester/Copper
Drain	Copper Wire
Jackets	Polyethylene
Reinforcement	GSW Armour
DC Resistance (Max)	7.74 Ω/km @ 20°C
Insulation Resistance	10 GΩ.km
Voltage Withstand	5 kV for 5 min
Cross Talk (20kHz)	< -60dB
Max Operation Temp.	90°C

Dimensional Data

Frequency (kHz)	1	5	10	15.5	20
Inductance – L (mH/km)	0.78	0.78	0.78	0.78	0.78
Capacitance – C (nF/km)	65	65	65	65	65
Attenuation – (dB/km)	0.40	0.61	0.73	0.85	0.94
Characteristic Impedance – Zo(Ω)	195	120	114	112	111

Table 1 – Calculated Signal Transmission Characteristics

Values for signal transmission characteristics above have been calculated using algorithms developed by JDR for testing guidance, and are given in **Table 1**. A tolerance of +/- 35% is generally accepted.

Critical signal transmission characteristics have been measured on production samples to confirm the above theoretical values. Test results are shown in **Table 2**.

Dimensional Data

Frequency (kHz)	1	5	10	15.5	20
Inductance – L (mH/km)	0.80	0.78	0.73	0.68	0.65
Capacitance – C (nF/km)	54	54	53	53	53
Attenuation – α (dB/km)	0.36	0.76	0.87	0.94	0.99
Characteristic Impedance – Zo(Ω)	206	130	120	115	113

Table 2 – Measured Signal Transmission Characteristics

Prior to acceptance for inclusion into an umbilical, every cable length undergoes a full suite of testing.



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JDR is a leading provider of technology connecting the global offshore energy industry. Our products and services enable vital control and power delivery to offshore oil, gas and renewable energy systems. The world's major energy companies and subsea service providers depend on high performance subsea control umbilicals and subsea power cables that operate in the world's harshest offshore environments. JDR invests in state-of-the-art manufacturing facilities, technology and people to deliver these world-class subsea products. We have a proven track record of delivering client expectations and are totally committed to lifecycle customer service. We achieve this through our specialist engineering teams, experienced project management, integrated safety systems and a global service network that ensures 24/7 aftermarket support.

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