



Geotechnical Data Acquisition Unit (GDU) Accurate and Consistent Testing

- For performing CBR, Consolidation, Direct/Residual Shear and Total & Effective Stress Triaxial tests
- 8 Channels expandable to 32 for performing multiple, concurrent tests for cost savings
- Independent signal conditioning on each channel to maintain data accuracy
- Field-upgradeable software, meaning no downtime for future software and functionality upgrades
- Extended warranty

New



The 2012 enhanced ELE DataSystem range

ELE International is pleased to announce the release of a **NEW** Geotechnical Data Acquisition Unit, the GDU.

The GDU is a stand-alone, multi-tasking, multi-channel data logger, that is reliable and powerful, enabling it to co-ordinate test data from the range of ELE transducers required for various test methods.

The ELE Geotechnical Software package (DS7), in conjunction with the GDU and a range of transducers, are the two central components required to create a modern turnkey soil testing system. Being fully modular it can be adapted to a wide range of soil testing laboratory configurations.

Cost Effective Test Data Logging

The GDU has the flexibility to operate with any combination of ELE transducer type up to a maximum of 32 channels. From the single channel required on the simple one-dimensional consolidation test, through to the much more complex CU/CD Triaxial tests requiring six channels. As standard the GDU is supplied with 8 channels and can be easily be upgraded to the maximum of 32 channels.

Test Data Accuracy and Integrity

The GDU logger uses a standard connection to communicate with the PC and the DS7 software. DS7 software and the GDU allows the user to create a very effective cost saving laboratory testing system. With the use of a basic computer the system has the ability to co-ordinate and supervise a range of soils testing procedures and create complete sample result sheets compliant to most of the International materials testing standards.

Depending on the type of tests to be conducted, ancillary equipment will be required to successfully complete the required soils testing system - a full range of ELE test sets are available, which include all the equipment to build a complete and successful system. Visit www.ele.com for more details.

The DS7 software is a "Windows" based program that is user-friendly in operation and unrivalled in the wide range of facilities to satisfy the following soil testing subjects and standards.

Geotechnical Software Modules

EL27-1770	DS7 One-Dimensional Consolidation Software
EL27-1790	DS7 Direct/Residual Shear Software
EL27-1750	DS7 Quick Undrained Triaxial Software
EL27-1760	DS7 CU/CD Effective Stress Triaxial Software
EL27-1765	DS7 Permeability in a Triaxial Cell Software
S 1100	DS7 Software Suite (comprising all of the above modules)

The DS7 system will greatly benefit any modern commercial testing laboratory, whether large or small, wishing to establish testing procedures to modern required standards. The package will also greatly improve data accuracy and uniformity including minimising test duration times with a reduced staff requirement.

A major feature of the GDU is it's unique ability to react and maintain test continuity to safeguard important test data should the mains power supply be interrupted for short periods.

Ordering Information

Code	Product
27-1500/01 GDU	8 Channel Data Acquisition Unit 220-240V 50/60Hz 1Ph
27-1500/02 GDU	8 Channel Data Acquisition Unit 100-120V 60Hz 1Ph
27-1505	8 Channel Expansion Analogue Input Module

GDU Specifications

Dimensions	325 mm width x 363 mm depth x 155 mm height (12.8"x 14.3"x 6.1")
Net Weight	6.4 kg (14.08 lb)

The new Geotechnical Data Acquisition Unit

► Built-in 6 point transducer calibration as standard to maximise transducer accuracy

► Independent signal conditioning on each channel to maintain data accuracy

► Field-upgradeable software meaning no downtime for future software and functionality upgrades



► Range of self diagnostics and fault detection systems that report errors directly to the DS7 software for easy trouble shooting should it be required

► 8 Channels Expandable to 32 for performing multiple, concurrent tests



8 channel standard unit (EL27-1500)



Fully configured 32 channel system
(1 x EL27-1500 & 3 x EL27-1505)

The GDU logger uses a standard RS232 serial connection to communicate with the PC and the DS7 software.

GDU Specifications		Test Types								
		California Bearing Ratio	One Dimensional Consolidation	Direct/Residual Shear	Triaxial					
					Total Stress (QU/UU)	Effective Stress (CU/CD) - 1 cell system	Effective Stress (CU/CD) - 3 cell system	Permeability - 1 cell system	Permeability - 2 cell system	
Item	Description	BS 1377,1924; EN 13286-47; ASTM D1883; AASHTO T193	BS 1377; EN 1997-2; ASTM D2435; AASHTO T216	BS 1377; EN 1997-2; ASTM D3080	BS 1377-7, -8 1924-2, ASTM D2850 D4767, AASHTO T296 T297					
Transducers	27-1559	S-Type Load Cell 50 kN for CBR or Marshall Tests	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	27-1705	CBR Penetration Transducer 50mm Travel	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	27-1649	Consolidation Transducer Assembly 15mm Travel	n/a	1	n/a	n/a	n/a	n/a	n/a	n/a
	27-1551	S-Type Load Cell 5 kN.for Triaxial Tests	n/a	n/a	n/a	*Samples up to 100mm dia	*Samples up to 50mm dia	n/a	n/a	n/a
	27-1553	S-Type Load Cell 10 kN.for Triaxial Tests	n/a	n/a	n/a	1 samples up to 100mm	*Samples up to 100mm	n/a	n/a	n/a
	27-1555	S-Type Load Cell 25 kN.for Triaxial Tests	n/a	n/a	n/a	*	*	n/a	n/a	n/a
	27-1561	S-Type Load Cell 5 kN.for Use with Direct/Residual Shear Machine	n/a	n/a	1	n/a	n/a	n/a	n/a	n/a
	27-1689	Vertical Displacement Transducer Assembly 15mm Travel	n/a	n/a	1	n/a	n/a	n/a	n/a	n/a
	27-1697	Horizontal Displacement Transducer Assembly 15mm Travel	n/a	n/a	1	n/a	n/a	n/a	n/a	n/a
	27-1617	Axial Strain Transducer Assembly 50mm Travel	n/a	n/a	n/a	1	1	1	n/a	n/a
	27-1625	Pressure Transducer Assembly 1700Kpa	n/a	n/a	n/a	1	3	9	1	2
	27-1573	Submersible Load Transducer Assembly 5 kN Capacity in Compression	n/a	n/a	n/a	n/a	1	*Samples up to 50mm dia	n/a	n/a
	27-1575	Submersible Load Transducer Assembly 10 kN Capacity in Compression	n/a	n/a	n/a	n/a	*Samples up to 100mm dia	3	n/a	n/a
	27-1641	Volume Change Transducer Assembly 80Cm3 Capacity Maximum Working Pressure 1700Kpa	n/a	n/a	n/a	n/a	1	3	2	4
DS7 Software	27-1795	California Bearing Ratio (CBR) Penetration Program	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	27-1770	One Dimensional Consolidation Test Program	n/a	1	n/a	n/a	n/a	n/a	n/a	n/a
	27-1790	Direct and Residual Shear Strength Program	n/a	n/a	1	n/a	n/a	n/a	n/a	n/a
	27-1750	Undrained Triaxial Shear Strength Program Single and Multi-Stage Options	n/a	n/a	n/a	1	n/a	n/a	n/a	n/a
	27-1760	CU/CD Triaxial Shear Strength Test Program	n/a	n/a	n/a	n/a	1	1	n/a	n/a
	27-1765	Permeability in a Triaxial Cell Test Program	n/a	n/a	n/a	n/a	n/a	n/a	1	1
S 1100	DS7 Software, UU/CU/CD, Permeability, Consolidation, Direct/Residual Shear, CBR									
	Total number of channels required for the above tests#	2	1	3	3	6	16	3	6	
GDU Options	27-1505	8 Channel Expansion Analogue Input Module. Fitted with 8 Standard 5 Pin Din Sockets#	n/a	n/a	n/a	n/a	n/a	1	n/a	n/a

For details of all other testing equipment and accessories to perform these tests, please visit www.ele.com. DS7 software system requirements: Operating System - Windows 2000 or XP Automatic Report Generation Microsoft Word 97 or later (up to V11.0). *Available as an option we recommend use of submersible load transducers when performing effective stress tests. # The GDU offers up to 32 channels - concurrent testing is possible - ability to perform all of the above tests concurrently or multiple tests of the same type.