



DRO PACKAGE KITS

Part No: DRO KITS
Doc V: 1.2

- Machine DRO offer a range of branded DRO packages with options to upgrade to ensure the most suitable setup for your machine at a cost effective price.
- A universal bracket set is included that offers a wide range of mounting configurations.
- Console options include 2 and 3 axis, colour LCD and PC interface.
- Choice of optical or magnetic encoders on any axis.
- Console user manual and install guide.
- Console mounting arm included.



Choosing the Correct DRO Package

Selecting encoder reading lengths:

The encoder reading length required is dependent upon the physical travel of each axis on the machine. When measuring the travel please ensure the machine stops are at their most outward position. Traverse the machine to the full extent on each axis and note the travels.

X axis scale selection on milling machine:

When the table is fully inward note the minimum distance from the column to the rear face of the table. It may be necessary to select a slim profile encoder or look at mounting the encoder on the front face of the table. Also measure the available height from the top of the table to the top of the Y axis slide and ensure the encoder is able to fit without projecting above the table surface. Measure the distance between coolant drains on the rear of the machine, if fitted, and check against overall encoder length. A single piece over cover is suitable when mounting the scale on the rear of the bed or a cover with a backing spar can make fitting easier on the front of the table.

Y and Z axis scale selection on milling machine:

Measure travel as described above and check available mounting space. A cover with backing spar can make fitting on a non-machine surface easier. Optical encoders must be mounted with the rubber seal facing away from the direction of coolant.

Lathe cross slide encoder selection:

The lathe cross slide is generally limited for space, a slim profile optical offers a very cost effective option. Our recommend upgrade would be to the smaller profile of the EH-05 magnetic, this offers a very compact profile size. The EH-05 is also IP67 rated.

Lathe carriage encoder selection:

The rear of the lathe bed does not generally have the same space restrictions as the cross slide and the standard profile is commonly fitted. A cover with backing spar can make fitting on a non-machined surface easier.

Console options:

Console choice will depend on machine type, required functions, ease of use and cost. All display consoles will offer a position readout in mm or inches, with additional machine specific functions available on some models. Both dedicated consoles are available that offer either mill or lathe function generally. Universal consoles will have functions for both machine types and in some cases EDM and/or Grinding machines. The Universal type will offer a single console format for the entire workshop and can be transferred between machines types. The two main display types are standard LED or LCD. The LCD types are often a graphical based display that will offer an easy to use menu system, available in both mono and colour display versions.

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Upgrade options



GS500 Slim scales: The M-DRO GS500 slim optical encoder. A cost effective option for the lathe cross slide, bench top milling or compact machine tools. Available reading lengths 70, 170, 220, 270, 320, 370, 420, 470, 520 and 570mm.



EH-05 Magnetic Encoder: The M-DRO EH-05 magnetic encoder. A very compact profile and sealed to IP67 make the encoder idea for lathe cross & compound slide or harsh workshop environment. This type of encoder can also be cut to length as required. Available reading lengths 150, 250, 350, 450, 550, 650, 750, 850, 950, 1050, 1150, 1250mm and longer.



Console upgrades: A universal console will have both lathe and milling functions allowing the same display to be used on either machine type. Choosing a 3 axis console with only 2 encoders will allow for simple future upgrade with the addition of an encoder at a later date.

Package 08 - PC DRO & 2 Encoders

- M-DRO PC interface including two M-DRO GS300 optical linear encoders.
- The interface connects up to four encoders using the USB port on your PC.
- The M-DRO GS300 precision optical glass grated scales.



Key Features
PC Interface
2 encoders
Universal bracket



Reading lengths options:

Encoder 1: 70, 170, 220, 270, 320, 370, 420, 470, 520, 570, 620, 670, 720 or 770mm.

Encoder 2: 70, 170, 220, 270, 320, 370, or 420 or 470mm.

Encoder 3: 70, 170, 220, 270, 320, 370, or 420 or 470mm (upgrade options).

Encoder 4: 70, 170, 220, 270, 320, 370, or 420 or 470mm (upgrade options).

Part number	Ex Vat	INC VAT
DRO-KIT-08	£250.00	£300.00

Upgrade Options:

+£15 INC VAT Per Axis		Upgrade A GSS500 Slim Optical	+£40 INC VAT Per Axis		Upgrade B EH-05 Magnetic upto 750mm	+£95 INC VAT Per Axis		Upgrade C Additional GS300 encoder upto 470mm
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Package 05 - M-DRO 2 Axis Mill & 2 Encoders

- M-DRO 2 axis Digital Readout system including two M-DRO GS300 optical linear encoders.
- M-DRO SDS2-2MS offers a high performance display console with milling functions.
- The M-DRO GS300 precision optical glass grated scales.



Key Features
2 axis milling
function display.
2 encoders
Universal bracket



Reading lengths options:

Encoder 1: 70, 170, 220, 270, 320, 370, 420, 470, 520, 570, 620, 670, 720 or 770mm.

Encoder 2: 70, 170, 220, 270, 320, 370, or 420 or 470mm.

Part number	Ex Vat	INC VAT
DRO-KIT-05	£275.00	£330.00

Upgrade Options:

+£15 INC VAT Per Axis		Upgrade A GSS500 Slim Optical	+£40 INC VAT Per Axis		Upgrade B EH-05 Magnetic upto 750mm	+£25 INC VAT		Upgrade C 2 axis SDS6 -2V universal	+£45 INC VAT		Upgrade D 3 axis SDS6 -3V universal
+£35 INC VAT Per Axis		Upgrade E GS300 Optical upto 1020mm	+£90 INC VAT Per Axis		Upgrade F GS600 Optical upto 1300mm	+£50 INC VAT Per Axis		Upgrade G EH-05 Magnetic upto 1050mm	+£60 INC VAT Per Axis		Upgrade G EH-05 Magnetic upto 1350mm





Package 06 - M-DRO 2 Axis & 2 Encoders

- M-DRO 2 axis Digital Readout system including two M-DRO GS300 optical linear encoders.
- The M-DRO SDS6-2V offers a high performance universal display console with Milling, Lathe and Grinding functions
- The M-DRO GS300 precision optical glass grated scales.



Key Features
2 axis universal display.
2 encoders
Universal bracket



Reading lengths options:

Encoder 1: 70, 170, 220, 270, 320, 370, 420, 470, 520, 570, 620, 670, 720 or 770mm.

Encoder 2: 70, 170, 220, 270, 320, 370, or 420 or 470mm.

Part number	Ex Vat	INC VAT
DRO-KIT-06	£295.83	£355.00

Upgrade Options:

+£15 INC VAT Per Axis	Upgrade A GSS500 Slim Optical	+£40 INC VAT Per Axis	Upgrade B EH-05 Magnetic upto 750mm	+£20 INC VAT	Upgrade C 3 axis SDS6 -3V universal	+£35 INC VAT Per Axis	Upgrade D GS300 Optical upto 1020mm
+£90 INC VAT Per Axis	Upgrade E GS600 Optical upto 1300mm	+£50 INC VAT Per Axis	Upgrade F EH-05 Magnetic upto 1050mm	+£60 INC VAT Per Axis	Upgrade G EH-05 Magnetic upto 1350mm		

Package 01 - Easson 2 Axis & 2 Encoders

- Easson 2 axis digital readout system including two Easson GS10 optical linear encoders.
- The Easson 8A-2X offers a high performance display console with both Milling and Lathe functions.
- The GS10 precision optical grated scales feature a double layer lip seal to give extra protection from contamination.



Key Features
2 axis universal display.
2 encoders.
Universal bracket.



Reading lengths options:

Encoder 1: 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750 or 800mm.

Encoder 2: 100, 150, 200, 250, 300, 350, 400, 450 or 500mm.

Part number	Ex Vat	INC VAT
DRO-KIT-01	£308.33	£370.00

Upgrade Options:

+£20 INC VAT Per Axis	Upgrade A GSS500 Slim Optical	+£50 INC VAT Per Axis	Upgrade B EH-05 Magnetic upto 750mm	+£25 INC VAT	Upgrade C 3 axis 8A-3X universal	+£130 INC VAT	Upgrade D 3 axis ES12 LCD universal
+£25 INC VAT Per Axis	Upgrade E GS10 Optical upto 1050mm	+£110 INC VAT Per Axis	Upgrade F GS10 Optical upto 1300mm	+£60 INC VAT Per Axis	Upgrade G EH-05 Magnetic upto 1050mm	+£70 INC VAT Per Axis	Upgrade H EH-05 Magnetic upto 1350mm

Package 07- M-DRO 3 Axis & 3 Encoders

- M-DRO 3 axis Digital Readout system including three M-DRO GS300 optical linear encoders.
- The M-DRO SDS6-3V offers a high performance universal display console with Milling, Lathe and EDM functions
- The M-DRO GS300 precision optical glass grated scales.



Key Features
3 axis universal function display.
3 encoders.
Universal bracket



Reading lengths options:

Encoder 1: 70, 170, 220, 270, 320, 370, 420, 470, 520, 570, 620, 670, 720 or 770mm.

Encoder 2: 70, 170, 220, 270, 320, 370, or 420 or 470mm.

Encoder 3: 70, 170, 220, 270, 320, 370, or 420 or 470mm.

Part number	Ex Vat	INC VAT
DRO-KIT-07	£395.83	£475.00

Upgrade Options:

+£15 INC VAT Per Axis	Upgrade A GSS500 Slim Optical	+£40 INC VAT Per Axis	Upgrade B EH-05 Magnetic upto 750mm	+£35 INC VAT Per Axis	Upgrade C GS300 Optical upto 1020mm	+£90 INC VAT Per Axis	Upgrade D GS600 Optical upto 1300mm
+£50 INC VAT Per Axis	Upgrade E EH-05 Magnetic upto 1050mm	+£60 INC VAT Per Axis	Upgrade F EH-05 Magnetic upto 1350mm				

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Package 02 - Easson 3 Axis & 3 Encoders

- Easson 3 axis digital readout system including three Easson GS10 optical linear encoders.
- The Easson 8A-3X offers a high performance display console with both Milling and Lathe functions.
- The GS10 precision optical grated scales feature a double layer lip seal to give extra protection from contamination.



Key Features
3 axis universal display.
3 encoders
Universal bracket



Reading lengths options:

Encoder 1: 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750 or 800mm.

Encoder 2: 100, 150, 200, 250, 300, 350, 400, 450 or 500mm.

Encoder 3: 100, 150, 200, 250, 300, 350, 400, 450 or 500mm.

Part number	Ex Vat	INC VAT
DRO-KIT-02	£400.00	£480.00

+£20 INC VAT Per Axis	Upgrade A GSS500 Slim Optical	+£50 INC VAT Per Axis	Upgrade B EH-05 Magnetic upto 750mm	+£130 INC VAT	Upgrade C 3 axis ES12 LCD universal	+£25 INC VAT Per Axis	Upgrade D GS10 Optical upto 1050mm
+£110 INC VAT Per Axis	Upgrade E GS10 Optical upto 1300mm	+£60 INC VAT Per Axis	Upgrade F EH-05 Magnetic upto 1050mm	+£70 INC VAT Per Axis	Upgrade G EH-05 Magnetic upto 1350mm		

Package 03 - Easson LCD 3 Axis & 2 Encoders

- Easson ES-12 Colour LCD 3 axis digital readout system including two Easson GS10 optical linear encoders.
- The Easson ES-12 offers a high performance display console with both Milling and Lathe functions.
- The GS10 precision optical grated scales feature a double layer lip seal to give extra protection from contamination.



Key Features
3 axis colour LCD graphical display.
2 encoders
Universal bracket



Reading lengths options:

Encoder 1: 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750 or 800mm.

Encoder 2: 100, 150, 200, 250, 300, 350, 400, 450 or 500mm.

Part number	Ex Vat	INC VAT
DRO-KIT-03	£416.67	£500.00

+£20 INC VAT Per Axis	Upgrade A GSS500 Slim Optical	+£50 INC VAT Per Axis	Upgrade B EH-05 Magnetic upto 750mm	+£25 INC VAT Per Axis	Upgrade C GS10 Optical upto 1050mm	+£110 INC VAT Per Axis	Upgrade D GS10 Optical upto 1300mm
+£60 INC VAT Per Axis	Upgrade E EH-05 Magnetic upto 1050mm	+£70 INC VAT Per Axis	Upgrade F EH-05 Magnetic upto 1350mm				

Package 04 - Easson LCD 3 Axis & 3 Encoders

- Easson ES-12 Colour LCD 3 axis digital readout system including three Easson GS10 optical linear encoders.
- The Easson ES-12 offers a high performance display console with both Milling and Lathe functions.
- The GS10 precision optical grated scales feature a double layer lip seal to give extra protection from contamination.



Key Features
3 axis colour LCD graphical display.
3 encoders.
Universal bracket



Reading lengths options:

Encoder 1: 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750 or 800mm.

Encoder 2: 100, 150, 200, 250, 300, 350, 400, 450 or 500mm.

Encoder 3: 100, 150, 200, 250, 300, 350, 400, 450 or 500mm.

Part number	Ex Vat	INC Vat
DRO-KIT-04	£500.00	£600.00

+£20 INC VAT Per Axis	Upgrade A GSS500 Slim Optical	+£50 INC VAT Per Axis	Upgrade B EH-05 Magnetic upto 750mm	+£25 INC VAT Per Axis	Upgrade C GS10 Optical upto 1050mm	+£110 INC VAT Per Axis	Upgrade D GS10 Optical upto 1300mm
+£60 INC VAT Per Axis	Upgrade E EH-05 Magnetic upto 1050mm	+£70 INC VAT Per Axis	Upgrade F EH-05 Magnetic upto 1350mm				

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