

DigiTrak® F5®

Transmitters

Locating—Plus a Whole Lot More

Transmitter reliability is an essential element of success for HDD contractors. Transmitter failures result in lost productivity and missed deadlines. With this in mind, DCI has recently made advances in its DigiTrak® F5® transmitter design to provide greater resistance to shock loads. These advances include DCI's new patent pending dual accelerometer design for increased transmitter performance.

DCI is well known for locating systems that support multiple transmitter frequency options to better combat interference. This includes the recent introduction of XRange® mode that provides additional roll and pitch range at jobsites with increased interference. It's another reason why DCI's underground products are the most versatile weapon for combatting both active and passive interference.

Innovation That Leads the Industry

DCI helps define important industry standards that measure the performance of your F5® system and transmitters. And during the past 25 years, DCI has repeatedly brought innovative products to market. DCI designed the first transmitter to send roll and pitch to a receiver. Other notable innovations are the industry's first dual frequency transmitter, fluid pressure monitoring, and tension monitoring during pipe (product) pullback.

The ability of crews to complete a bore depends on having the right tools. DCI maximizes your value on jobsites with a wide selection of underground transmitter capabilities.

Specialty Transmitters

XRange® Mode (x) – XR significantly extends roll/pitch data range, in some cases more than twice as far¹

Fluid Pressure Transmitter (p) – Measures annular fluid pressure outside the drill head

TensiTrak® System – Monitors both annular fluid pressure and the tension on product during pullback

SST® Steering Tool – Delivers accurate steering data without a costly wire grid

Transmitter Specifications

Pitch resolution standard/XR	±0.1/0.2% at level
Roll data standard/XR24/12-position clock
Maximum temperature	104° C

15" Transmitter

Depth range	19.8 m
Roll/pitch data range	19.8 m
XRange/XR Max data range	32.0/36.6 m

19" Transmitter

Depth range	30.5 m
Standard roll/pitch data range	30.5 m
XRange/XR Max data range	51.8/61.0 m

Fluid Pressure Feature²

Pressure range.....	0–1725 kPa
Pressure resolution, 0–517 kPa	7 kPa
517–1725 kPa.....	34 kPa

¹ XRange requires F5 receiver software v3.04 or later. XRange capabilities affect other performance parameters and are dependent on jobsite environment.

² Fluid pressure data is not sent while the transmitter is in XRange mode.

19 in. Extended Range (L) Fluid Pressure (p) XRange (x) Transmitter



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DigiTrak® F5 Transmitters

	F5X 18	F5X 8	F5D 12/1.3	F5Dp 12/1.3	F5D 19/12	F5Dpx 19/12	F5DLpx 19/12
Frequency	18.5 kHz	8.4 kHz	12 and 1.3 kHz	12 and 1.3 kHz	19.2 or 12.0 kHz	19.2 or 12.0 kHz	19.2 or 12.0 kHz
Depth/Data Range (Standard)	19.8 m	19.8 m	19.8 m	19.8 m	19.8 m	19.8 m	30.5 m
Data Range (XR/XR Max)	n/a	n/a	n/a	n/a	n/a	32.0/36.6 m	51.8/61.0 m
Pressure Range	n/a	n/a	n/a	0–1725 kPa	n/a	0–1725 kPa	0–1725 kPa
Length	38.1 cm	38.1 cm	38.1 cm	38.1 cm	38.1 cm	38.1 cm	48.3 cm
Diameter	3.2 cm	3.2 cm	3.2 cm	3.2 cm	3.2 cm	3.2 cm	3.2 cm

XRange® (XR®) mode provides additional roll/pitch range for difficult jobsites. The F5D/F5Dp 12/1.3 dual-frequency transmitters can broadcast simultaneously in 12 and 1.3 kHz or at higher power in 12 kHz alone. The 19/12 transmitters broadcast in 19.2 or 12.0 kHz. XR mode (where applicable) and frequency can be selected mid-bore.

Battery life awake/asleep for a 38.1 cm transmitter is 20/200 hrs for 2 C-cell alkaline, 70/400 hrs for 1 SuperCell™, or 40/400 hrs for 2 SAFT LSH14 batteries. Battery life for the 48.3 cm F5DLpx 19/12 transmitter is 40/400 hrs for SuperCell or 30/400 hrs for SAFT batteries; alkaline batteries are not recommended due to higher power requirements.

Fluid Pressure Transmitter (p)

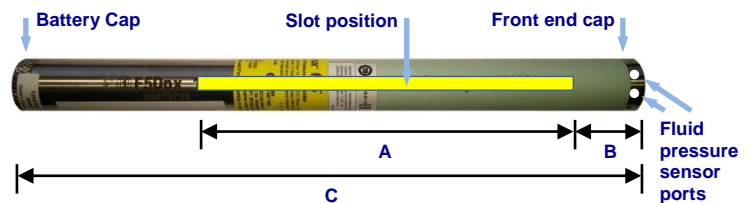
A DigiTrak® F5 Fluid Pressure Transmitter (FPT) is a patented DCI innovation for the HDD industry: the real-time measurement and logging of downhole drilling fluid pressure. The long range DigiTrak FPT, a walkover locating technology exclusive to DCI, provides constant readings of the annular drilling fluid pressure at the drill head. Available in three dual-frequency configurations, a fluid pressure transmitter (p) provides the same standard data as our other transmitters, including roll, pitch, depth, and temperature.

Housing Requirements

DCI's transmitters require three slots equally spaced around the circumference of the drill head for optimal signal emission and maximum battery life. Measure slot lengths on the *inside* of the drill head; slots must be at least 1.6 mm ($1/16$ in.) wide. DCI transmitters fit standard housings but may require a battery cap adapter in some cases.

The DigiTrak FPT is compatible with most drill housings that let fluid flow from the annulus around the housing to the four sensor ports on the front end cap; slots in the housing will satisfy this requirement. Housings with epoxied slots require a 3 mm ($1/8$ in.) diameter hole to allow fluid to reach the transmitter's sensor ports.

Housing Specifications



A	B*	C
22.9 cm*	2.5 cm	38.1 cm
33.0 cm	2.5 cm	48.3 cm

* Ideal measurement. The DCI standard A distance of 21.6 cm and B distance of 5.1 cm remain acceptable.

Compatibility

The F5 system is compatible with all F Series transmitters, including FX long range, FXL extended range, FC cable, FS short range, and DucTrak™ conduit tracking transmitter.

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