



## CHARACTERISTICS

- **ULTRA SMALL:**  
SMALLEST SENSOR ON THE MARKET TODAY.  
SMALL SIZE MEANS EASIER INSTALLATION ON TRICKY MACHINERY.
- **ULTRA FAST:**  
NO MECHANICAL MOVING PARTS MEANS THE SENSOR CAN READ ANY PRACTICAL CYCLE SPEED.
- **ULTRA RELIABLE:**  
COMPLETELY SOLID STATE OPERATION FOR HIGH RELIABILITY AND DURABILITY.
- **IP 67 PROTECTION.**
- **FULLY POTTED SOLID STATE DEVICE:**  
MEANS CIRCUIT IS ISOLATED FROM THE ENVIRONMENT.
- **360° LED MONITORING:**  
ALLOWS YOU TO SEE SIGNAL STATUS FROM ANY ANGLE.
- **NPN AND PNP:**  
BOTH INCLUDED AS STANDARD.
- **M12 CONNECTOR:**  
AUTOMOTIVE SPECIFICATIONS PROVIDES ROBUST WIRING SOLUTIONS.

## APPLICATIONS

- **02 SYSTEM**

**Patented:**  
UltraSensor technology is protected by international patents.  
**Patented:**  
US 20080284415 A1

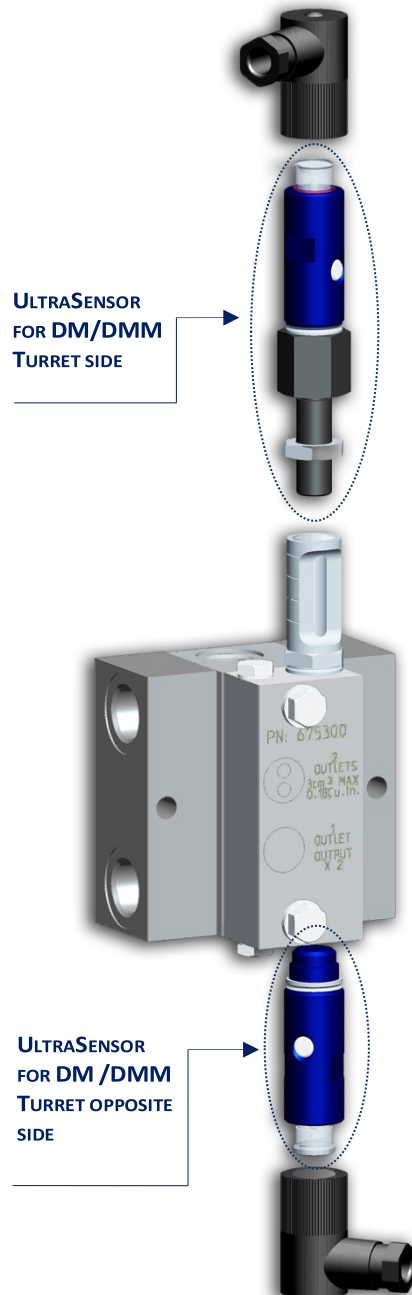
## ULTRASENSOR DM/DMM:

### ULTRA ULTRA SMALL, ULTRA FAST, ULTRA RELIABLE

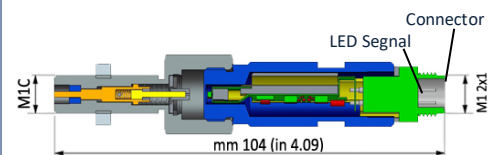
The UltraSensor has been designed as a next generation replacement of Proximity and Micro switch systems for monitoring spool movement in progressive divider elements.

UltraSensor DM/DMM will work with standard DM/DMM divider blocks as a screw-on accessory without requiring special arrangement or modification to the spool.

The patented concept works by monitoring magnetic flux variations through a hall-effect sensor as the spool enters the sensing range.

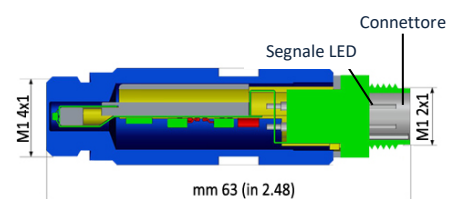


### ULTRASENSOR FOR DM/DMM TURRET SIDE



CONNECTOR NOT INCLUDED

### 1655314 -1655344 ULTRASENSOR FOR DM TURRET OPPOSITE SIDE

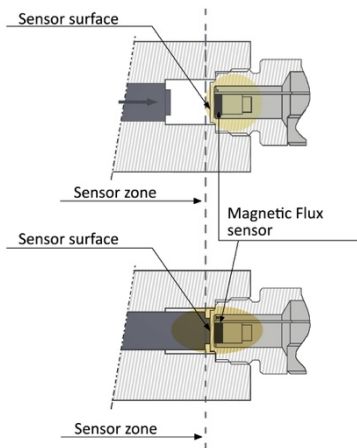


CONNECTOR NOT INCLUDED

### TECHNICAL INFORMATION

TECHNICAL CHARACTERISTICS	
Material	AISI 316 - Nickel-plated brass
Max. cycle per minute	1000
Voltage	8 ÷ 28 V DC
Short circuit protection	yes
Protection degree	IP 67
Operating temperature	-10 °C ÷ +60 °C (-4 °F ÷ +158 °F)
Connector	M12x1
Output signal	NPN 2A N.O - PNP 0,7A N.O.
Max allowable pressure on the front sensor surface	400 bar

### OPERATING PRINCIPLE



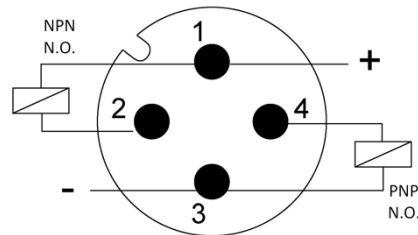
Normally, the magnetic field is balanced around the hall sensor.

With the spool in the sensing range, the flux density is modified allowing the Hall Effect sensor to detect the presence of the spool.

The use of a Magnetic Flux variation allows an extended sensing zone which avoids problems on systems with low flow rates and backpressure where the spool can often stop or bounce on the sensing surface.

### CONNECTIONS

M12 connector - (Top view)



PIN	FUNCTION
1	Vdc in 8÷28V
2	NPN out
3	GND
4	PNP out

NPN and PNP connection options are standard within the same sensor.

### ORDERING INFORMATION

Description	Part. No.		
Ultrasonic sensor for DM - TURRET SIDE Nickel-plated brass	1655310	<input type="radio"/>	_____
Ultrasonic sensor for DM/DMM - TURRET SIDE AISI 316	1655350	<input type="radio"/>	_____
Ultrasonic sensor for DM/DMM TURRET OPPOSITE SIDE Nickel-plated brass	1655314	<input type="radio"/>	_____
Ultrasonic sensor for DM/DMM TURRET OPPOSITE SIDE AISI 316	1655344	<input type="radio"/>	_____

ACCESSORIES			
M12 female connector	0039999	<input type="radio"/>	_____
M12 female connector +CABLE L 5 mt	0039815	<input type="radio"/>	_____
2 m cable, M12 female connector	0039168	<input type="radio"/>	_____
2 m cable, 90°- M12 female connector	0039830	<input type="radio"/>	_____
5 m cable, 90°- M12 female connector	0039815	<input type="radio"/>	_____

Info distributor: