

Laboratory and Measuring and Observing and Testing Equipment : 41000000								GeM 3.0		
Measuring and observing and testing instruments : 41110000										
land surveying instruments : 41114200										
PIPE AND CABLE LOCATOR / ROUTE TRACER : 41114293										
S. No.	Parameter	Field Type	Field Category	LOV				Unit	Comment	
APPLICATION / FREQUENCY / PERFORMANCE										
1	Application	Enumerable	Mandatory	Pipe and Cable Locator / Route Tracer is useful for precise locating & tracing of underground utilities such as power cable, armoured telecom cables & pipelines etc.						
2	Components / Working Principle	Enumerable	Mandatory	A typical Pipe and Cable Locator / Route Tracer consists of a Receiver, a Transmitter, connection leads and ground stake. The Receiver detects electromagnet signals radiating from metallic cables, power cables, armoured telecom cables & pipelines etc., both in active and passive modes.						
3	Frequency Range	Enumerable	Golden	(1) Single Frequency (32.768 kHz); (2) Double Frequency (32.768 kHz +131 kHz)-both frequencies operating simultaneously; (3) Six Frequencies (512 Hz, 640 Hz, 8.192 kHz, 32.768 kHz, 131 kHz, 32.768 kHz +131kHz dual-simultaneous frequency); (4) 512 Hz to 200 kHz with 30 or more predefined frequencies; (5) 200 Hz to 476.2 kHz with 30 or more predefined frequencies						
4	Number of Predefined / Active frequencies	Numeric	Mandatory / Filter	Range: 1 to 40						
5	Available Predefined / Active frequencies (Select available frequencies only)	Enumerable	Mandatory / Filter	200Hz, 256Hz, 273Hz, 400Hz, 512Hz, 560Hz, 570Hz, 577Hz, 640Hz, 760 Hz, 797 Hz, 815Hz, 870Hz, 920Hz, 940Hz, 1.01 kHz, 1.02kHz, 1.1kHz, 1.45kHz, 4kHz, 4.096 kHz; 4.01 kHz; 8.192kHz, 8.4kHz, 8.9kHz, 9.2kHz, 16 kHz, 32.768 kHz, 64 kHz, 65.536 kHz, 82 kHz; 82.315 kHz, 82.70kHz, 83 kHz; 83.077 kHz, 93 kHz , 116 kHz, 117.850 kHz, 131 KHz, 131.072 kHz; 145 kHz, 200kHz, 200.330 kHz; 262kHz, 476.2kHz; 32.768 kHz +131 kHz-Dual frequency					Multi Select	
6	Depth Measurement (in Transmitter Mode) (May indicate 'NA' in case of 'Without Transmitter Mode')	Enumerable	Golden	Upto 3 meter	Upto 5 meter	Upto 10 meter	NA			
7	Depth Accuracy (May indicate 'NA' in case of 'Without Transmitter Mode')	Enumerable	Golden	± 5% or better	± 10% or better	NA				
RECEIVER										
1	Receiver Housing Material	Enumerable		High Impact Resistant ABS		High Impact Resistant Polycarbonate				
2	Gain control	Enumerable	Golden	Auto	Manual	Both Auto & Manual				
3	Operating Modes in the Receiver	Enumerable	Golden	Transmitter Mode; Power Mode; RF / Radio Mode; Signal Current Measurement Mode; Cathodic Protection Mode (CP); Left Right Arrow Mode; Compass Mode; Peak Mode; Peak, Null & Pinpoint Peak Modes					Multi Select	
4	Depth range in Power / RF mode	Measurable	Golden	3	2			meter	Higher is Better	
5	Display on Receiver	Enumerable	Mandatory	Yes						
6	Type of Display (Receiver)	Enumerable	Golden	LCD without backlight	LCD with backlight	LED without backlight	LED with backlight			

S. No.	Parameter	Field Type	Field Category	LOV							Unit	Comment
7	Display Size (Receiver)	Measurable	Mandatory / Filter	Range: 1 to 10							inch	
8	Information provided in the Receiver Display	Enumerable	Golden	Locating Mode Indication, Bar graph Display, Left/Right Arrows, Depth measurement, Line orientation (compass), Antennae operating mode , Continuous Battery Check, Operating frequency, Volume level								Multi Select
9	Datalogging capability (Receiver)	Enumerable	Golden	Yes	No							
10	Datalogging file formats (Receiver)	Enumerable	Mandatory / Filter	csv; km; xls; NA								Multi Select
11	Built-in Data logging memory (Receiver)	Measurable	Golden	0	2	4					GB	
12	Interface (Receiver)	Enumerable	Mandatory / Filter	USB	SD Card	Micro SD Card	Mobile App	Bluetooth	NA		Multi Select	
13	Capacity of the SD Card supplied (inclusive in the supply) (May select '0' if not Applicable)	Measurable	Golden	0	2	4					GB	
POWER SOURCE / BATTERY FOR RECIVER												
1	Power Source to the Receiver	Enumerable	Golden	Rechargeable Battery			Alkaline (non-rechargeable) Battery					
2	Battery Chemistry (Receiver)	Enumerable	Mandatory / Filter	Li-ion	Ni-MH	Alkaline						
3	Battery size (Receiver)	Enumerable	Mandatory / Filter	AA	AAA	AAAA	Type-C	Type-D	9 V-Rectangular Battery	NA		
4	Capacity of Battery (Receiver) (Ah)	Numeric	Golden	Range: <= 16								Higher is Better
5	Battery back-up time under continuous operation (for Receiver)	Measurable	Mandatory / Filter	Range: >= 20							hours	Higher is Better
6	Number of Batteries Required for operation (Receiver)	Numeric	Mandatory / Filter	1	2	3	4	6	8			
7	Number of Batteries Supplied (for Receiver)	Numeric	Mandatory / Filter	1; 2; 3; 4; 6; 8; 12; 16								
SALIENT FEATURES OF THE RECIVER												
1	Salient Features of Receiver (Select Applicable features Only)	Enumerable	Mandatory / Filter	Built-in GPS; Built-in dual battery pack; Push button for Mode Selection; Knob Selector Switch for Mode Selection; Impact resistant twin wall construction; Impact resistant replaceable wear foot; Mobile phone Datalogging App; Audio, Visual indication; Detachable loud Speaker; Automatic Daily Self Test; NA								Multi Select
TRASMITTER												
1	Trasmitter Housing Material	Enumerable	Golden	High Impact Resistant ABS			High Impact Resistant Polycarbonate					Multi Select
2	Trasmitter wattage (Minimum)	Measurable	Golden	0.3	1	3	4	10			Watt	
3	Trasmitter maximum voltage output	Enumerable	Golden	28 V or more		120 V or more						

S. No.	Parameter	Field Type	Field Category	LOV							Unit	Comment
4	Operating Modes in the Transmitter	Enumerable	Mandatory / Filter	Induction Mode; Clamp Mode; Direct Connection Mode								Multi Select
5	Controls in the Transmitter	Enumerable	Mandatory / Filter	Push buttons for Frequency Modulation, Push buttons for Frequency Selection, Output Level								Multi Select
6	Display on Transmitter	Boolean	Golden	Yes	No							
7	Type of Display (Transmitter)	Enumerable	Golden	LCD without backlight; LCD with backlight; LED without backlight; LED with backlight; NA								
8	Display Size (Transmitter)	Measurable	Mandatory / Filter	Range: 0 to 6							inch	
9	Information provided in the Transmitter Display	Enumerable	Golden	Output frequency; Signal Strength; Battery Condition; Connected mode; Output Power level; NA								Multi Select
10	Datalogging capability (Transmitter)	Enumerable	Golden	Yes	No							
11	Datalogging file formats (Transmitter)	Enumerable	Mandatory / Filter	csv; km; shp; dbf; shx; xls; NA								Multi Select
12	Built-in Data logging memory (Transmitter)	Measurable	Golden	0	2	4					GB	
13	Interface (Transmitter)	Enumerable	Mandatory / Filter	USB	SD Card	Micro SD Card	Mobile App	Bluetooth	NA			Multi Select
POWER SOURCE / BATTERY FOR TRANSMITTER												
1	Power Source to the Trasmmitter	Enumerable	Golden	Rechargeable Battery		Alkaline (non-rechargeable) Battery						Multi Select
2	Battery Chemistry (Transmitter)	Enumerable	Mandatory / Filter	Li-ion	Ni-MH	Alkaline						
3	Battery size (Transmitter)	Enumerable	Mandatory / Filter	AA	AAA	AAAA	Type-C	Type-D	9 V-Rectangular Battery	NA		
4	Capacity of Battery (Transmitter) (Ah)	Numeric	Golden	Range: <= 10								Higher is Better
5	Battery back-up time under continuous operation (Transmitter)	Measurable	Mandatory / Filter	Range: >= 8							hours	Higher is Better
6	Number of Batteries Required for operation (for Transmitter)	Numeric	Mandatory / Filter	1	2	3	4	6	8			
7	Number of Batteries Supplied (for Transmitter)	Numeric	Mandatory / Filter	1; 2; 3; 4; 6; 8; 12; 16								
SALIENT FEATURES OF THE TRANSMITTER												
1	Salient Features of Transmitter (Select Applicable features Only)	Enumerable	Mandatory / Filter	Fault locating Mode for sheath fault locating; Integrated Accessory Tray; Pulsed or continuous output Signal; Mobile phone Datalogging App; Audio, Visual indication; Detachable loud Speaker; Automatic Daily Self Test; NA								Multi Select

S. No.	Parameter	Field Type	Field Category	LOV							Unit	Comment
ACCESSORIES												
1	Accessories inclusive in the scope of supply (Select Only Applicable Accessories inclusive in the scope of supply)	Enumerable	Golden	Signal Coupler / Clamp 100mm dia with 2 meter connection lead; Battery Charger; Direct connection lead with magnets - 1 No.; Earth stake - 1 No.; Instruction Manual; Carry bag; Sonde; Flexible traceable rod with reel of 200 meter long; Supporting PC Software; NA								Multi Select
GENERIC												
1	GPS (GNSS) Data Capability features	Enumerable	Golden	Onboard GPS (GNSS) module: Link to External GPS (GNSS); External GPS (GNSS) position read into Lactor's memory; Capturing / Export of Survey measurement data; Entry of various usage parameter into the log; NA								Multi Select
2	Software features	Enumerable	Golden	Locator Configuration; Survey measurements data collation and export; User Account Management; Free software updation during warranty period; Filter usage logging and survey measurement points on Google maps; NA								Multi Select
3	Bluetooth survey measurement data protocols	Enumerable	Mandatory / Filter	PPP	ASCII	NA						
4	Weight of the Receiver (including batteries)	Measurable	Mandatory								kg	AKBNV
5	Dimensions of the Receiver (mm x mm x mm)	Text	Mandatory									AKBNV
6	Weight of the Transmitter (including batteries)	Measurable	Mandatory								kg	AKBNV
7	Dimensions of the Transmitter (mm x mm x mm)	Text	Mandatory									AKBNV
8	Compliance to safety standards (both Receiver & Transmitter) including battery as per law of the land	Enumerable	Mandatory	Yes								
OPERATING CONDITIONS / INGRESS PROTECTION												
1	Minimum Operating Temperature (Receiver)	Measurable	Mandatory / Filter	Range: <= 0							deg. C	
2	Maximum Operating Temperature (Receiver)	Measurable	Mandatory / Filter	Range: 50 - 70							deg. C	
3	Minimum Operating Temperature (Transmitter)	Measurable	Mandatory / Filter	Range: <= 0							deg. C	
4	Maximum Operating Temperature (Transmitter)	Measurable	Mandatory / Filter	Range: 50 - 70							deg. C	
5	Enclosure Ingress Protection (Receiver)	Enumerable	Mandatory / Filter	IP 54, IP 65								
6	Enclosure Ingress Protection (Transmitter)	Enumerable	Mandatory / Filter	IP 54, IP 65								
WARRANTY												
1	Warranty	Measurable	Golden	1	2						Year	

* AKBNV: ALLOW KEY BUT NOT VALUE

Creator (s)

Jitender

AD GRK Pillai

Modifier
DCEO SK Jain

APProver (s)
ACEO - HRS / ACEO - PS