Fludia
Smart Energy Components

BelSenso **IMCir**
Internet Meter Connect

LoRa™

Product Range

BelSenso

BelSenso IMCir

LoRa · Wi Fi

Internet Meter Connect

BelSenso IMCir is a non-intrusive plug&play solution for collecting data from meters equiped with an infrared communication port (works also with Ferraris Meters).
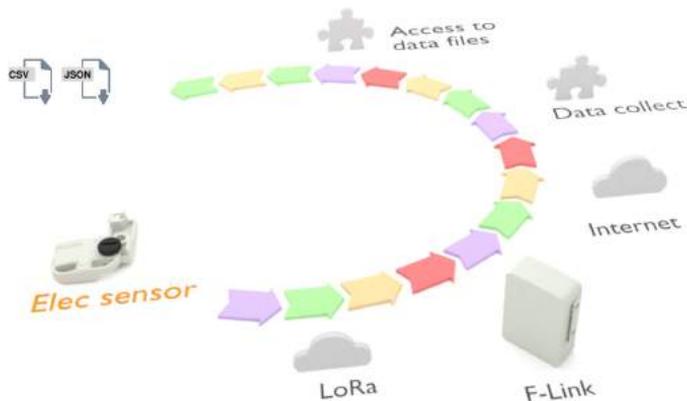
It is an integrated LoRa point-to-point solution, including an IoT sensor (FM232ir) and a small bridge (F-link) forwarding the LoRa messages to Internet (WiFi or Ethernet connexion). This self-installing solution is optimal for residential consumption monitoring.

Benefits

⇒ **Universal**: compliant with most meters (Ferraris, mME, ...)

⇒ **Plug & Play**: self installation (< 5mn)

⇒ **Granularity**: 15 minutes or 1 minute, less on request

⇒ **Battery life time**: up to 7 years with provided batteries

⇒ **Evolutive**: several sensors for one F-Link (on request)

Operational

CSV   JSON

Access to data files

Data collect

Internet

Elec sensor

LoRa   F-Link

Implementation

$\Rightarrow$ **Smart Home and customer engagement**
   smart monitoring of electricity consumption, including rich content
   based on end-use disaggregation (NILM)

General and technical features

	BelSenso IMCir	
Input	Optical reading of electromechanical meters (Ferraris) (Detection of disk rotations)	Optical reading of electronic meters (mME,…) (Decoding of infrared messages)
Operational	Adhesive pads (3M) Selection of meter type by switch Red and Green LEDs for commissioning T°: -15°C to +45°C	
Output	**FM232ir** LoRa protocol - Internal antenna (PCB) 868MHz Max power 14 dbm (25mW)	**F-Link bridge** Ethernet cable Wifi https
Data	Load curve measurement: 1mn, 15mn Transmission 13 to 33 messages/day Data delivery (csv/json formats): FTP/API/Softplug (.exe)/self-decoding	
Power supply	FM232ir: Internal battery 3.6V	F-Link bridge: 5V external adapter
Size & Weight	**Optical reader** weight: 19gr height: 24mm width: 40mm depth: 19mm **Radio Box** weight: 130gr height: 95mm width: 75mm depth: 30mm	**F-Link bridge** weight: 140gr height: 95mm width: 75mm depth: 30mm

Belsenso IMCir

FM232ir

F-Link

References

IMCir_15mn	15 minute data (*)
IMCir_1mn	1 minute data (**)

(*) *Estimated Battery life 8 years for infrared port meter, 5 years for Ferraris (i.e. electromechanical) meter*

(**) *Estimated Battery life 4 years for infrared port meter, 3 years for Ferraris (i.e. electromechanical) meter*