

Proximity Magnetic Sensors

Magnetic units

CL Series



- Rectangular, cylindrical or trapezoidal housing
- Several dimensions
- Side or front operating mode

Product Description

Magnetic units used for operating magnetic proximity sensors consist of permanent magnets sharply sized for the job they are intended. Their shape can be rectangular or cylindrical. Block-shaped magnetic units must be placed on non-magnetic supports,

their minimum thickness must be in accordance with those one listed in table, in parallel to the switch longitudinal axis.

Ordering Key

CL 2

Magnetic unit Type

General

| Shape | Housing material | Magnetic material* | Minimum separation** | Reference |
|-------------|------------------|--------------------|----------------------|-----------|
| Rectangular | Plastic | Alnico | 10 | CL1 |
| | Plastic | Alnico | 20 | CL2 |
| | Plastic | Alnico | 30 | CL3 |
| | Plastic | Alnico | 50 | CL4 |
| Cylindrical | Plastic | Alnico | Not mandatory | CL10 |
| | Plastic | Alnico | Not mandatory | CL11 |
| | - | Ferrite | Not mandatory | CL18 |
| | - | Ferrite | Not mandatory | CL23 |
| | - | Ferrite | Not mandatory | CL31 |
| | - | Ferrite | Not mandatory | CL20S1 |
| | - | Ferrite | Not mandatory | CL20S3 |
| | - | Ferrite | Not mandatory | CL50 |
| Trapezoidal | Plastic | Alnico | Not mandatory | CL90 |

Distances are specified in millimeters (mm)

* see Magnetic Material Description table for more details.

** minimum distance required between two magnetic units on the same axis.

Magnetic Material Description

The principal materials by which are realized the above mentioned magnetic units can be classified in:

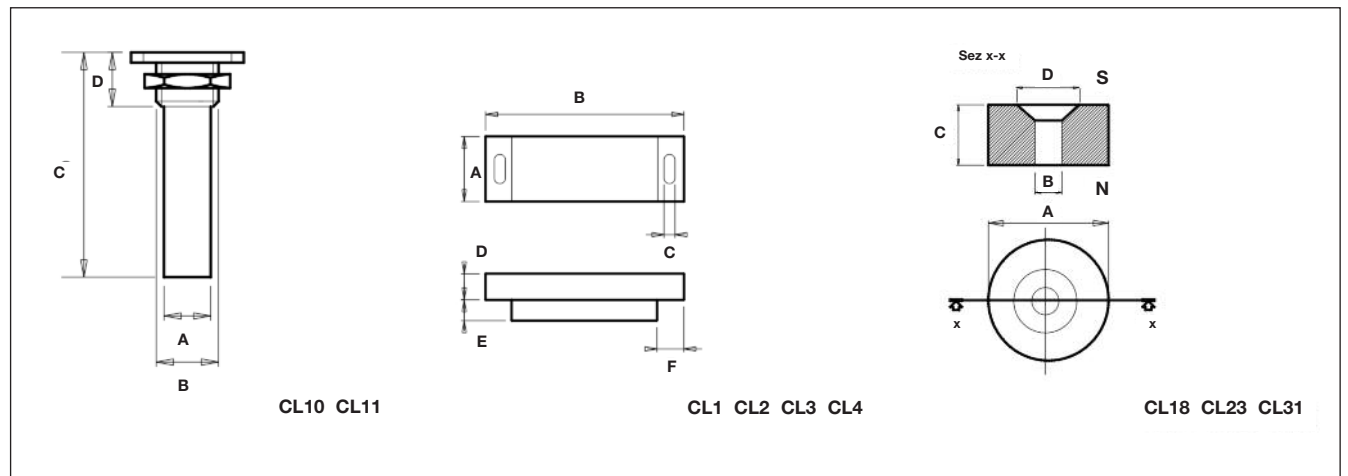
- **Ferrite:** is a mixture made of iron oxide and barium carbonate (or strontium) and is obtained through a dry or wet way sintering process.
- **Alnico:** is a mixture made of iron, aluminum, nickel, cobalt and other elements in lower percentage; it is obtained through fusion and its principal features are the hardness and the relative resistance to hits, the high value of magnetization and the possibility to be used to high temperatures.

Type Selection

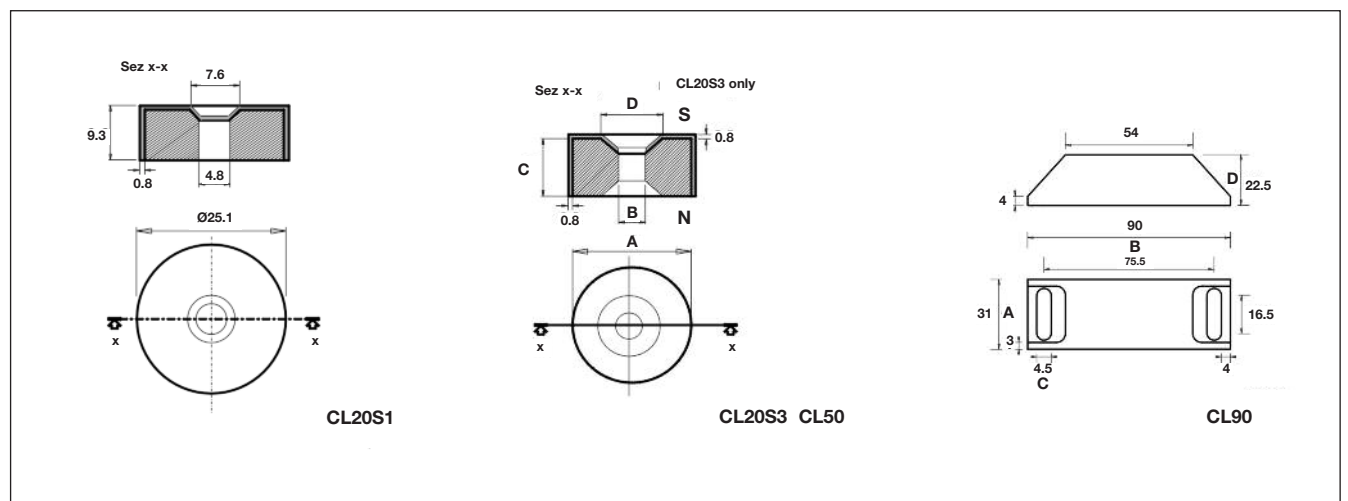
| Shape | A | B | C | D | E | F | Reference |
|-------------|-------|----------|------|------|---|----|-----------|
| Rectangular | 14 | 25 | 2.7 | 8 | - | - | CL1 |
| | 12 | 44.5 | 2.7 | 9 | - | - | CL2 |
| | 18 | 59 | 3.2 | 9 | - | - | CL3 |
| | 25 | 76 | 4.2 | 10 | 8 | 10 | CL4 |
| Cylindrical | Ø9.3 | M12x1.25 | 32 | 10.5 | - | - | CL10 |
| | Ø13.5 | M18x1.5 | 65 | 11 | - | - | CL11 |
| | 18 | 3 | 6 | 6 | - | - | CL18 |
| | 23 | 4.5 | 9 | 10 | - | - | CL23 |
| | 31 | 4.5 | 10 | 10 | - | - | CL31 |
| | 25.1 | 4.8 | 10.5 | 9.8 | - | - | CL20S1 |
| | 22.1 | 4.8 | 10.5 | 9.8 | - | - | CL20S3 |
| Trapezoidal | 50 | 0 | 10 | 0 | - | - | CL50 |
| | 31 | 90 | 6.5 | 22.5 | - | - | CL90 |

Dimensions are specified in millimeters (mm)

Dimensions



Dimensions (cont.)



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