

# 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:

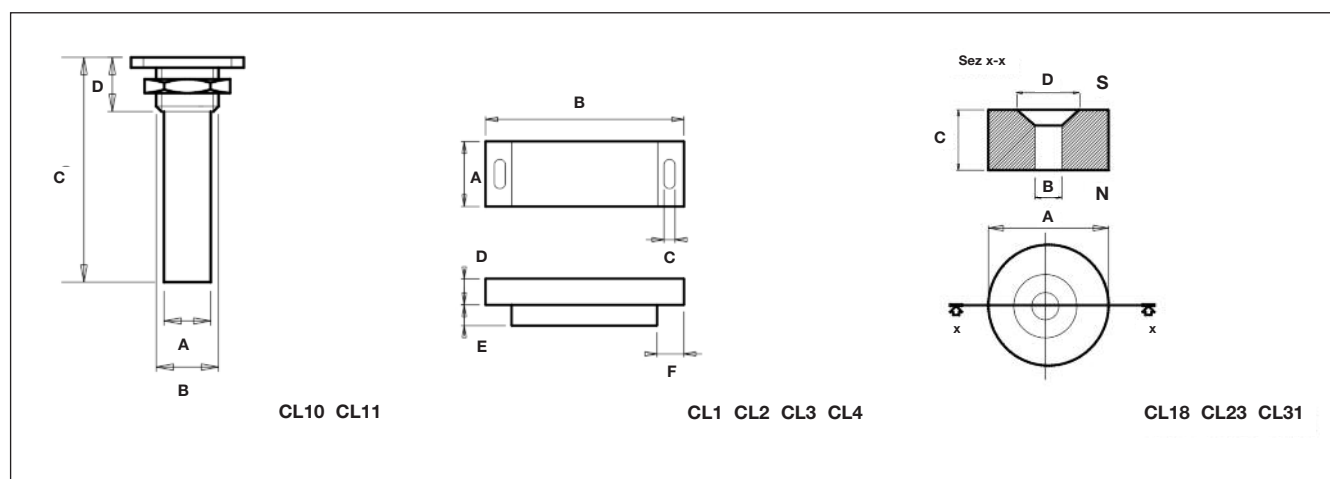
- **Ferrite**: is a mixture made of iron oxide and barium carbonate (or strontium) and is obtained through a dry or wet way sintering process.
- **Alnico**: is a mixture made of iron, aluminum, nickel, cobalt and other elements in lower percentage; it is obtained through fusion and its principal features 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.)

