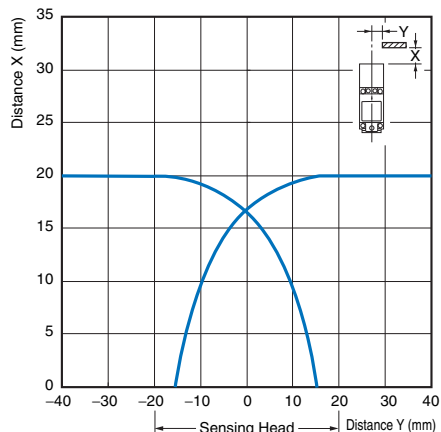


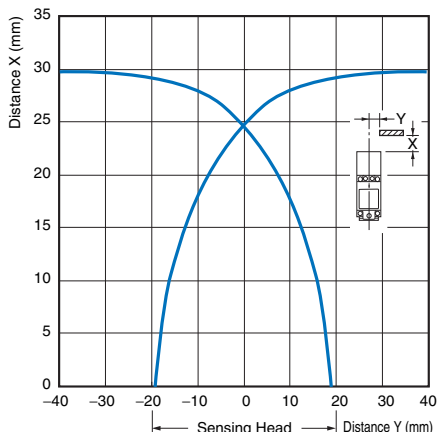
# Engineering Data (Reference Value)

## Sensing Area

**Shielded Models**  
E2Q6-N20□3-H

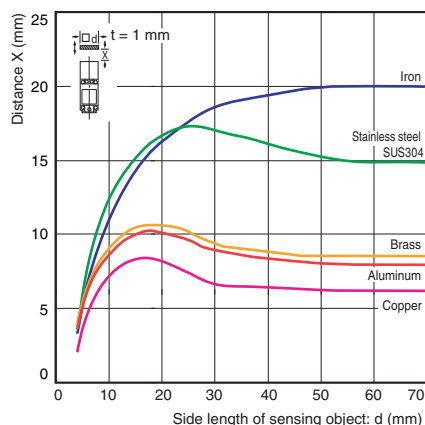


**Unshielded Models**  
E2Q6-N30M□3-H

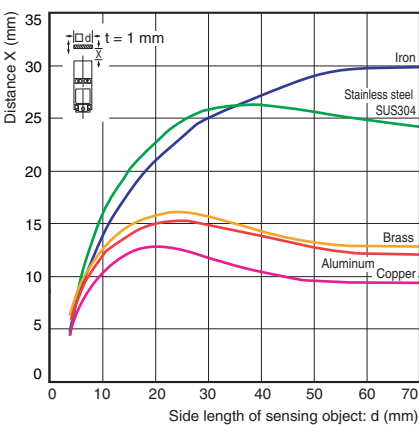


## Influence of Sensing Object Size and Materials

**Shielded Models**  
E2Q6-N20□3-H



**Unshielded Models**  
E2Q6-N30M□3-H



## I/O Circuit Diagrams

### NPN

Model	Operation mode	Timing charts	Output circuit
E2Q6-N20E3-H E2Q6-N30ME3-H	NO + NC		


### PNP

Model	Operation mode	Timing charts	Output circuit
E2Q6-N20F3-H E2Q6-N30MF3-H	NO + NC		

## Safety Precautions

Be sure to read the precautions for all models in the website at: <http://www.ia.omron.com/>.

### Indication and Meaning for Safe Use

 <b>WARNING</b>	Indicates a potentially hazardous situation which, if not avoided, will result in minor or moderate injury, or may result in serious injury or death. Additionally there may be significant property damage.
<b>Precautions for Safe Use</b>	Supplementary comments on what to do or avoid doing, to use the product safely.
<b>Precautions for Correct Use</b>	Supplementary comments on what to do or avoid doing, to prevent failure to operate, or undesirable effect on product performance.

### WARNING

**This product is not designed or rated for directly or indirectly ensuring safety of persons. Do not use it for such a purpose.**



**Never use this product with an AC power supply. Otherwise, explosion may result.**



### Precautions for Safe Use

The following precautions must be observed to ensure safe operation.

- Do not use the product in an environment where flammable or explosive gas is present.
- Do not attempt to disassemble, repair, or modify the product.
- Power Supply Voltage**  
Do not use a voltage that exceeds the rated operating voltage range. Applying a voltage that is higher than the operating voltage range may result in damage or burnout.
- Incorrect Wiring**  
Be sure that the power supply polarity and other wiring is correct. Incorrect wiring may cause explosion or burnout.
- Connection without a Load**  
If the power supply is connected directly without a load, the internal elements may explode or burn. Be sure to insert a load when connecting the power supply.
- Dispose of this product as industrial waste.

### UL Certification

This product is certified for UL standards, but the certification is not applicable to metal piping to the conduit section. For UL applications, use a certified cable grip.

### Precautions for Correct Use

#### Operating Environment

- Do not install the product in the following locations. Doing so may result in product failure or malfunction.
  - Outdoor locations directly subject to sunlight, rain, snow, water droplets, or oil.
  - Locations subject to atmospheres with chemical vapors, in particular solvents and acids.
  - Locations subject to corrosive gases.
  - Locations subject to shocks or vibration.
- The Sensor may malfunction if used near ultrasonic cleaning equipment, high-frequency equipment, transceivers, cellular phones, inverters, or other devices that generate a high-frequency electric field. Please refer to the Precautions for Correct Use of Photoelectric Sensors on the OMRON website ([www.ia.omron.com](http://www.ia.omron.com)) for typical measures.
- Laying the Proximity Sensor wiring in the same conduit or duct as high-voltage wires or power lines may result in incorrect operation and damage due to induction. Wire the Sensor using a separate conduit or independent conduit.
- Cleaning**  
Never use thinner or other solvents. Otherwise, the product surface may be dissolved.
- Do not subject the Sensor to strong shock. Otherwise, the Sensor Head may be damaged.

#### Power ON

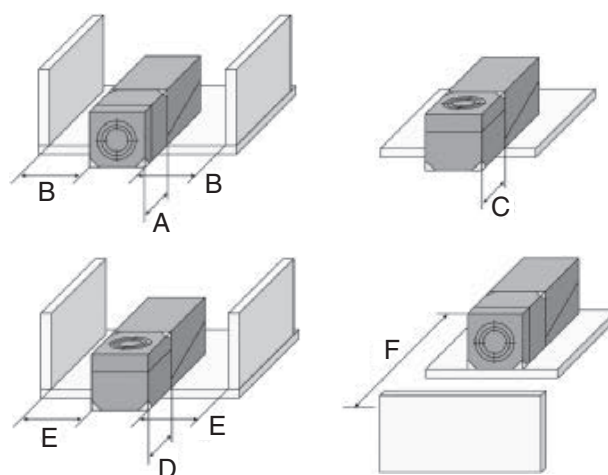
The Sensor is ready to sense an object within 300 ms after turning the power ON. If the load and Sensor are connected to different power supplies, always turn ON the Sensor power first.

#### Power OFF

Output pulses may occur when the power supply is turned OFF. Turn OFF the power supply to the load or load line first.

#### Effects of Surrounding Metals

When the Proximity Sensor is embedded in metal, make sure that the clearances given in the following table are maintained.



(Unit: mm)

Model	A	B	C	D	E	F
E2Q6-N20□3-H	0	0	0	0	10	60
E2Q6-N30M□3-H	40	0	25	40	20	90