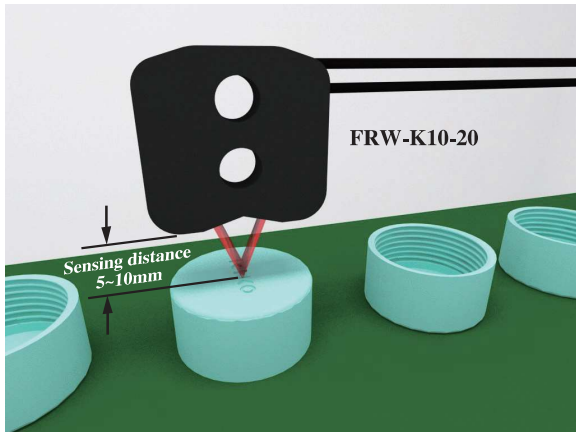
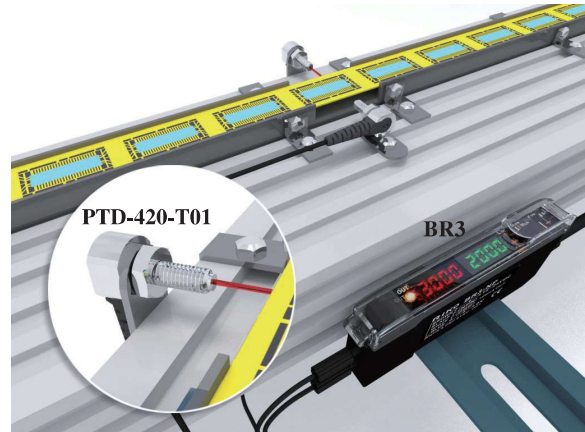


F0001 Page 057



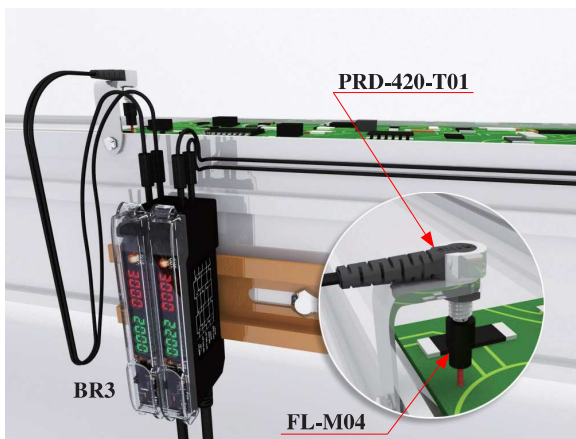
Detecting front and opposite side of cap.
檢測瓶蓋正反面

F0002 Page 029 / Page 050



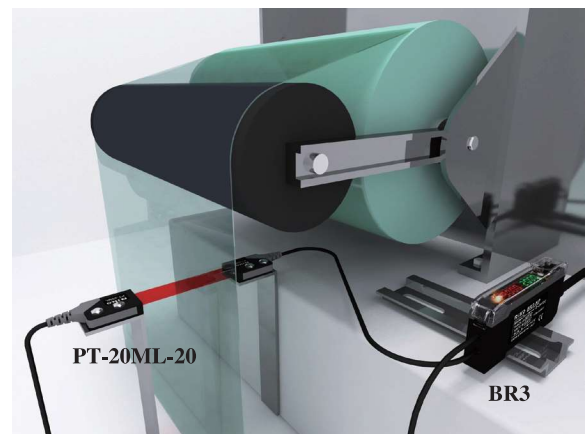
Detecting leadframe.
檢測導線架

F0003 Page 029 / Page 048 / Page 078



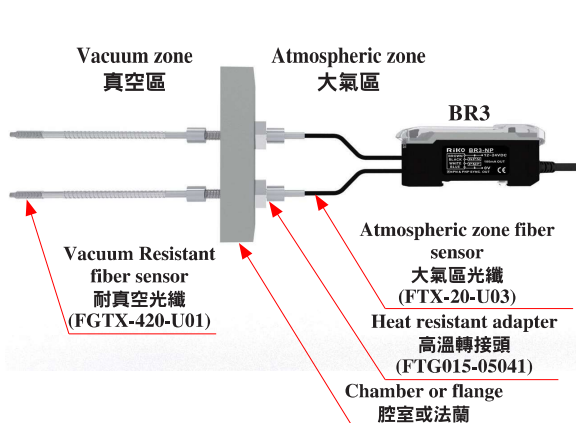
Detecting PCB.
檢測PCB

F0004 Page 029 / Page 051



Detecting thin film.
檢測薄膜

F0005 Page 029 / Page 059 / Page 069 / Page 078



Applied to high temperature and vacuum environments.
用於高溫真空環境

F0006 Page 029 / Page 038 / Page 112



Detecting box passing.
檢測盒子通過

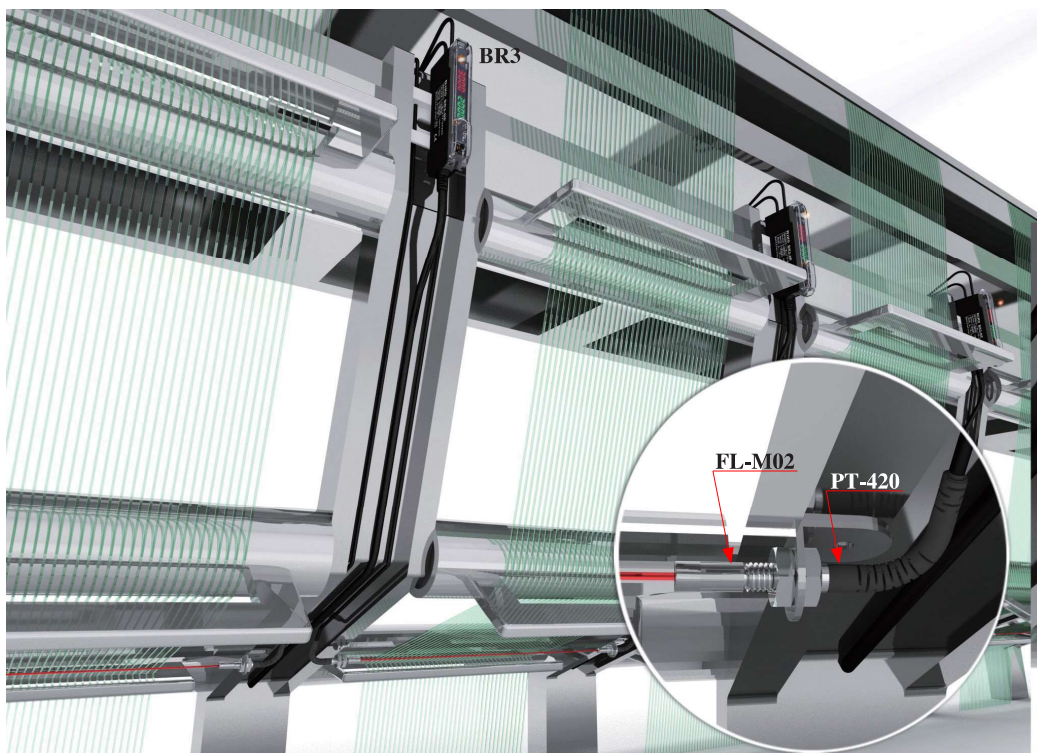
Fiber Sensor

Photo / Area Photo / Ultrasonic Sensor

Inductive / Capacitive Proximity Sensor

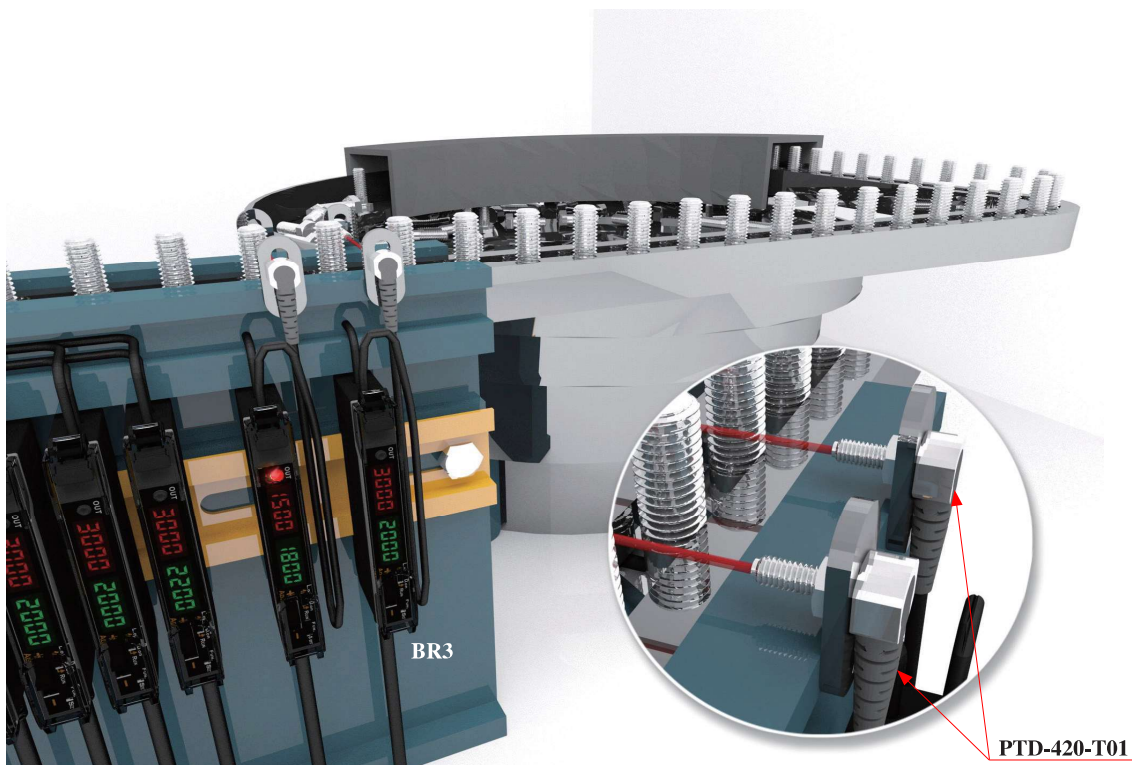
Others

F0007 Page 029 / Page 043 / Page 078



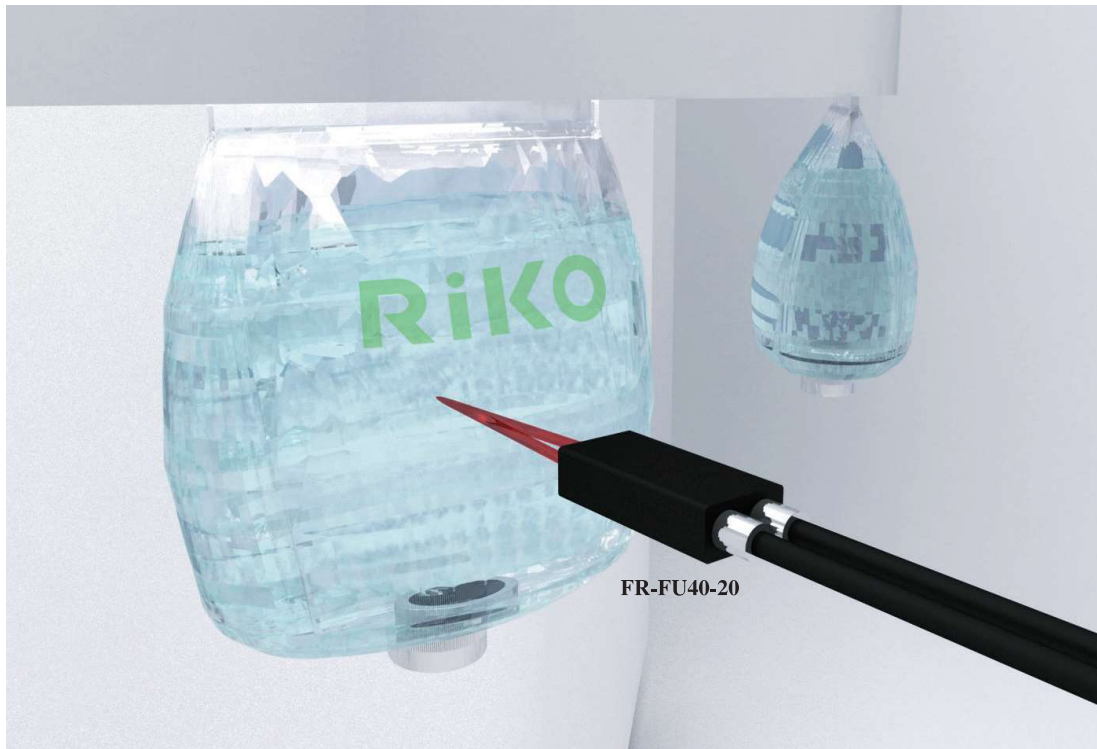
Detecting textile.
檢測紡織

F0008 Page 029 / Page 050



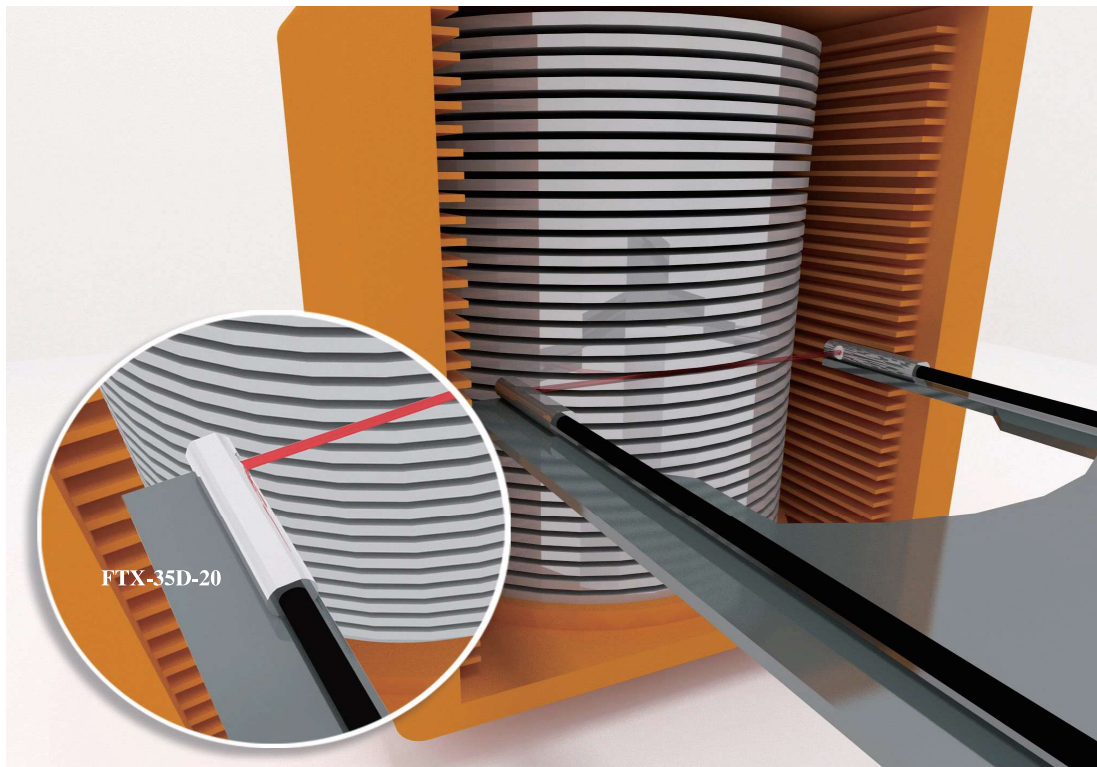
Feeder Bowl applications.
用於震動盤

F0009 Page 055



Detecting medicine bag passing.
檢測藥袋通過

F0010 Page 060



Detecting wafer.
檢測晶圓

Fiber Sensor

Photo / Area Photo / Ultrasonic Sensor

Inductive / Capacitive Proximity Sensor

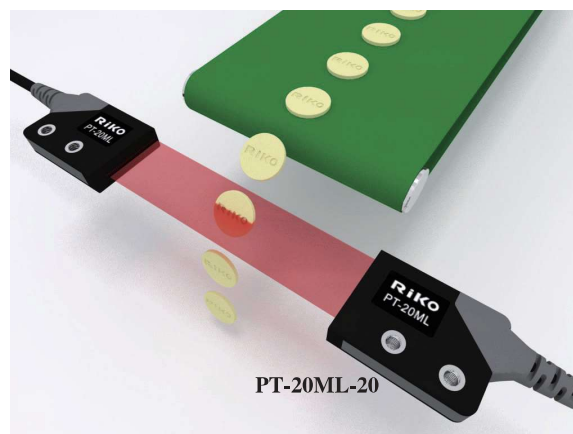
Others

F0011 Page 051



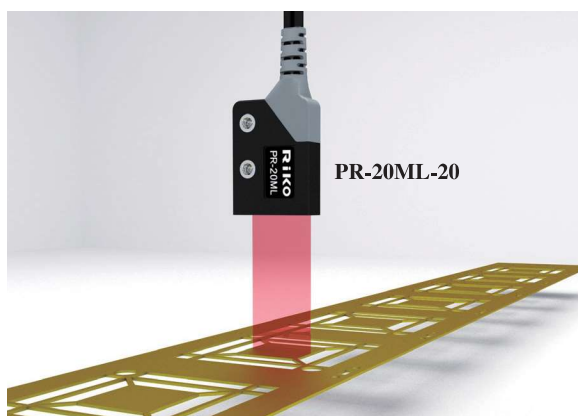
Detecting fill-up into medicine can.
檢測藥罐填充物

F0012 Page 051



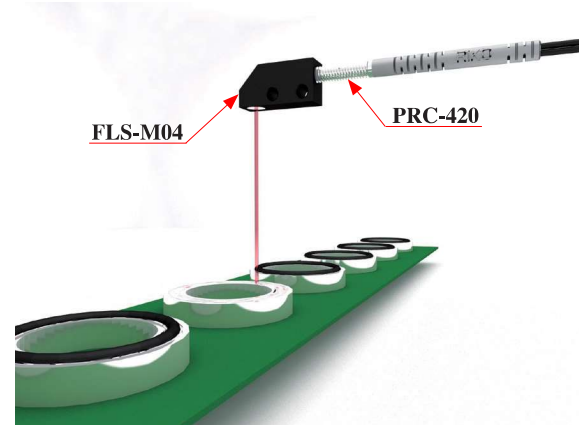
Detecting pillar or tablet.
檢測藥片

F0013 Page 051



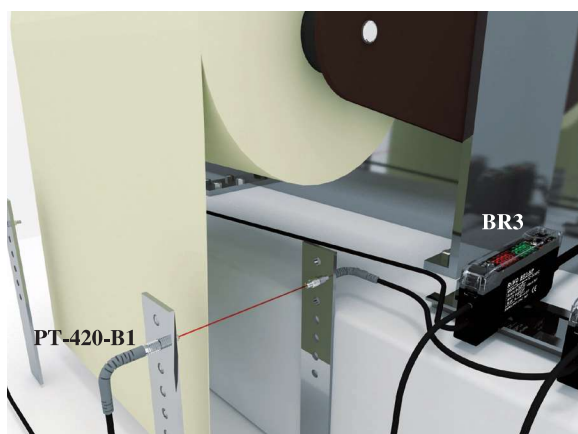
Detecting ledframe.
檢測導線架

F0014 Page 039 / Page 078



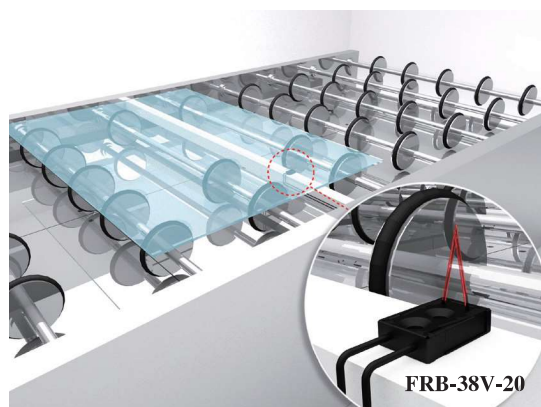
Side-view lens attached for detection.
可裝90度聚焦鏡檢測物件

F0015 Page 029 / Page 043



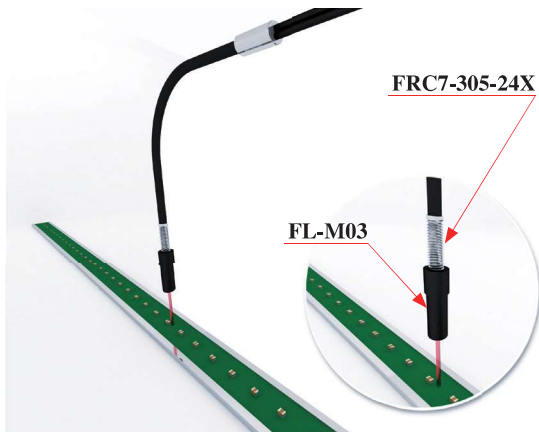
Detecting edge of paper.
檢測紙張邊緣

F0016 Page 057



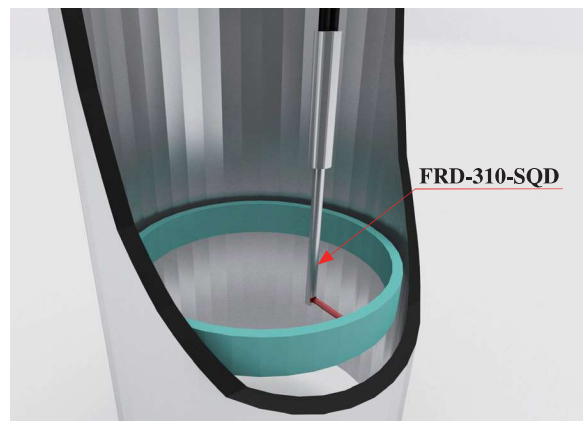
Detecting glasses.
檢測玻璃

F0017 Page 055 / Page 078



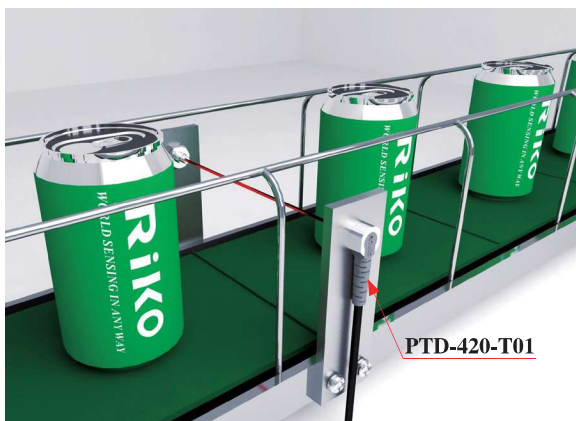
Detecting tiny component.
檢測微小零件

F0018 Page 055



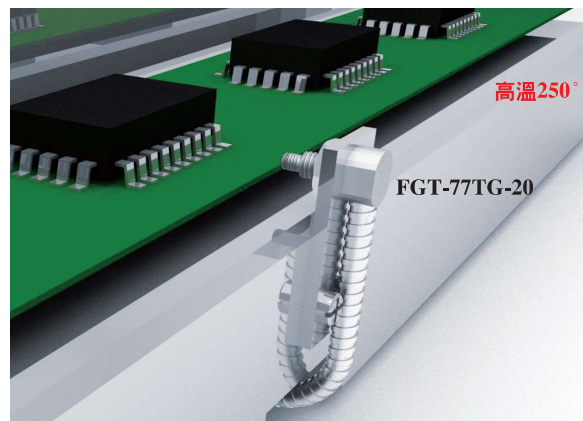
Side-view fiber sensor applied in narrow space.
90度反射光纖，可用於狹小空間檢測

F0019 Page 050



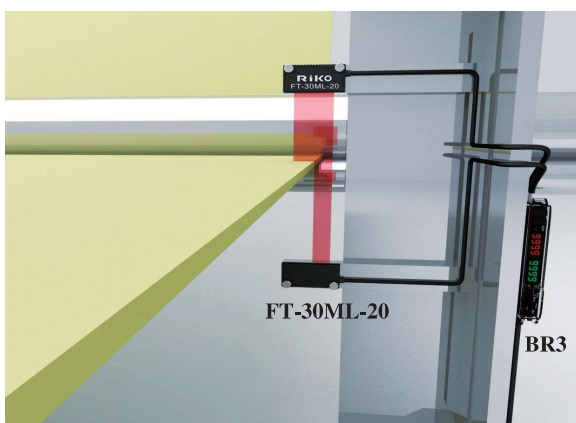
Detecting conveying.
輸送檢測

F0020 Page 072



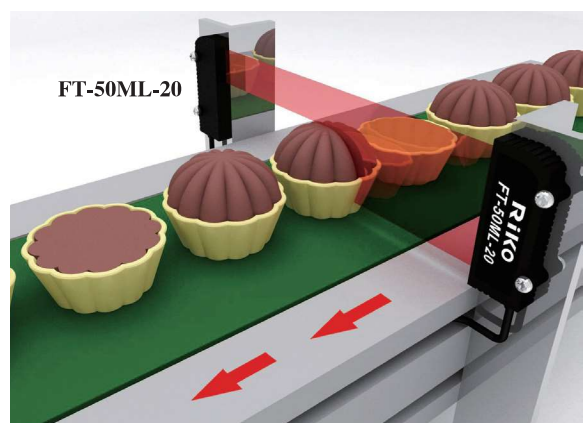
Detecting IC in the high temperature processor.
檢測高溫製程中的IC

F0021 Page 029 / Page 060



Detecting edge of target.
檢測物件邊緣

F0022 Page 061



Detecting and counting on conveyor.
輸送帶上計數檢測

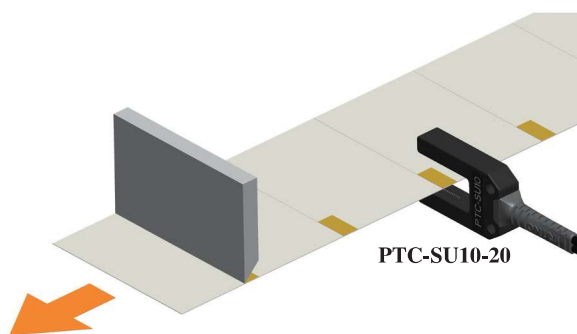
Fiber Sensor

Photo / Area Photo / Ultrasonic Sensor

Inductive / Capacitive Proximity Sensor

Others

F0023 Page 051



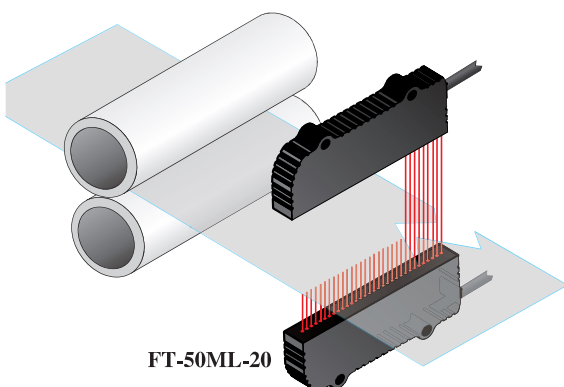
Detecting location of color mark.
檢測色標定位

F0024 Page 057



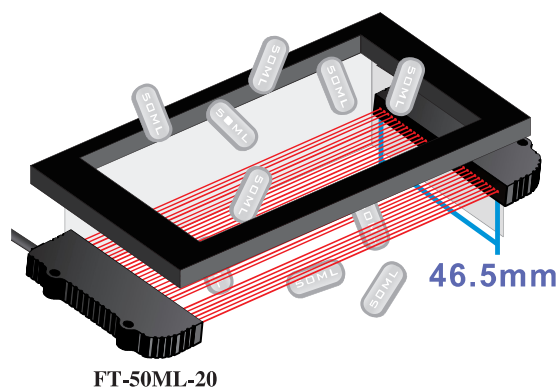
To detect the level of liquids.
液位檢測

F0025 Page 061



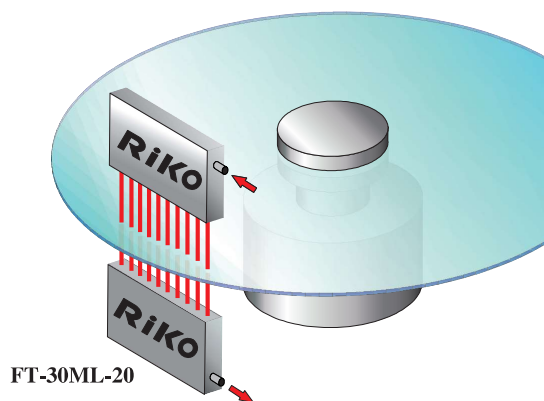
Detecting rupture of thin film.
檢測缺口斷裂

F0026 Page 061



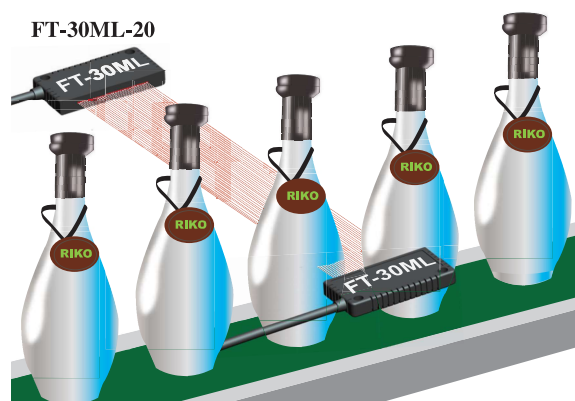
Detecting dropping objects.
檢測不規則產品掉落

F0027 Page 060



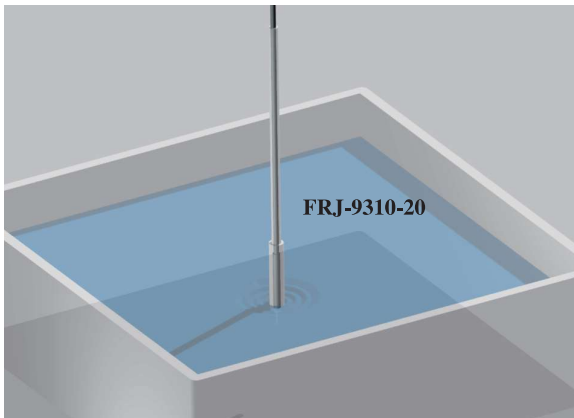
Detecting damage of metal disc.
檢測金屬圓盤是否破損

F0028 Page 060



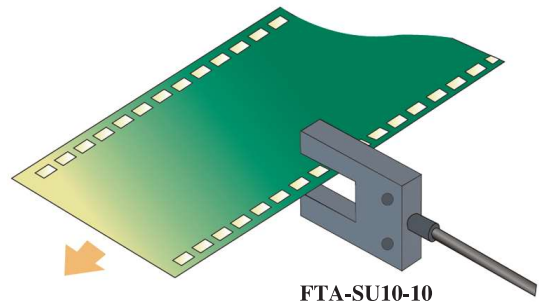
Measuring the quantity of bottles.
檢測瓶子數量

F0029 Page 057



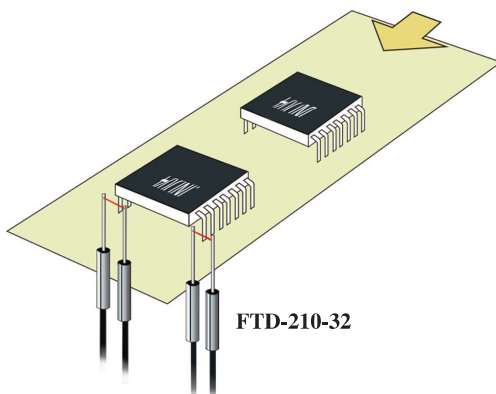
Detecting the level of liquid.
檢測水位

F0030 Page 062



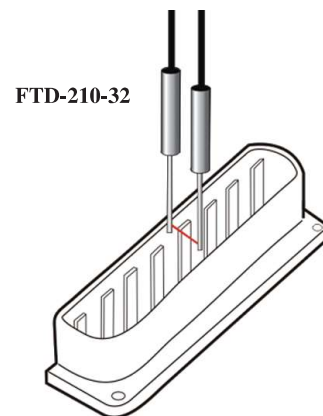
Detecting position of film.
檢測底片位置

F0031 Page 059



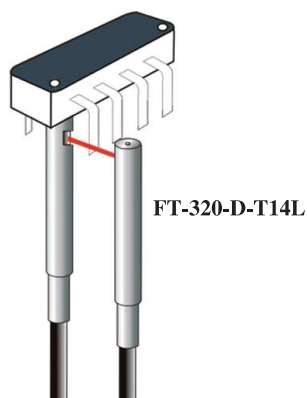
Detecting IC deflection.
檢測IC是否缺腳

F0032 Page 059



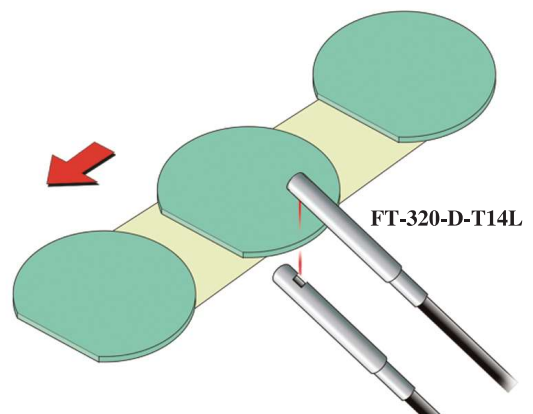
Detecting lack of pins from D type connectors.
檢測D型接頭是否缺PIN

F0033 Page 059



Detecting IC deflection.
檢測IC是否缺腳

F0034 Page 059



Detecting shortage of goods.
檢測物件是否短缺

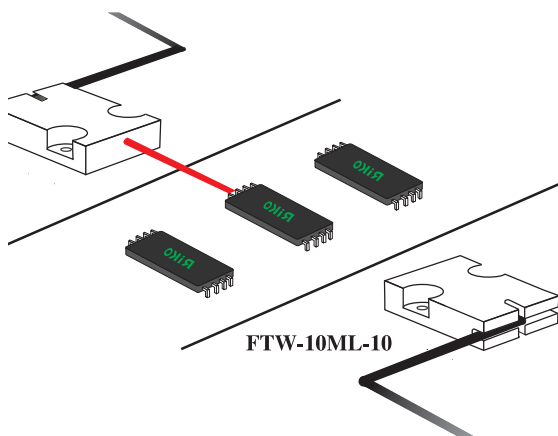
Fiber Sensor

Photo / Area Photo / Ultrasonic Sensor

Inductive / Capacitive Proximity Sensor

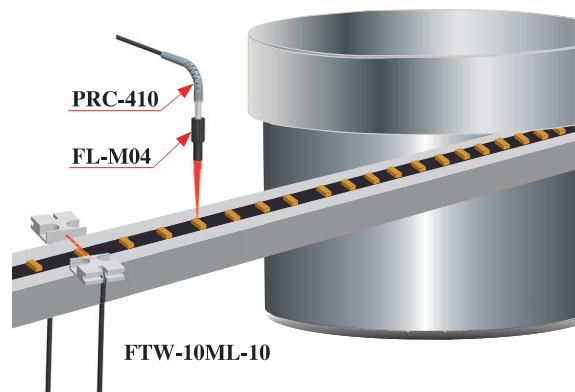
Others

F0035 Page 062



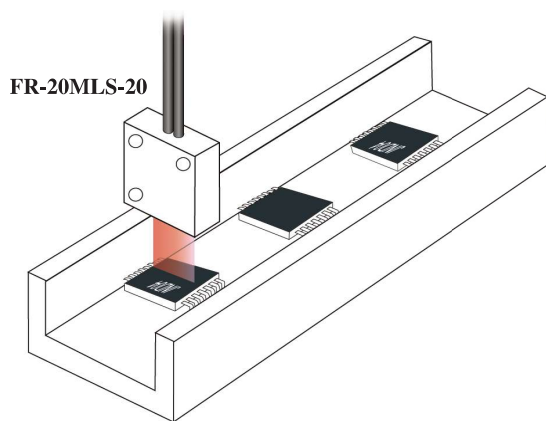
Detecting IC deflection.
檢測IC是否缺腳

F0036 Page 039 / Page 062 / Page 078



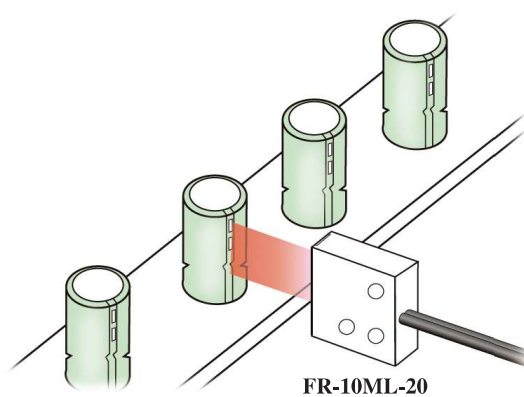
Detecting if the right side of the objects on the feeder.
檢測送料機上物品的正反面

F0037 Page 056



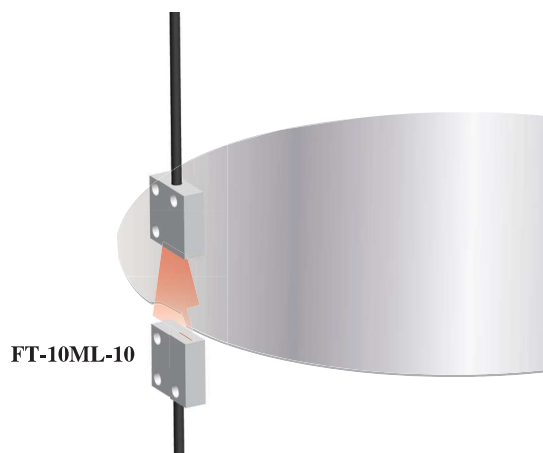
Detecting IC deflection.
檢測IC是否缺損

F0038 Page 055



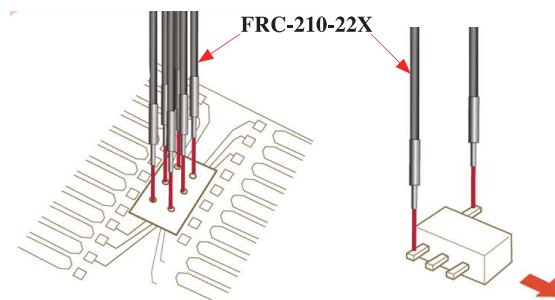
Detecting capacitor deflection.
檢測電容是否缺損

F0039 Page 060



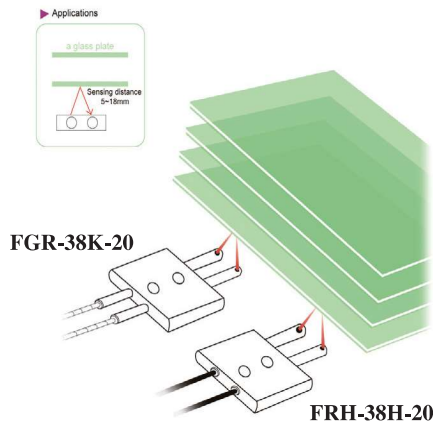
Detecting if the wafer is broken.
檢測晶片缺口

F0040 Page 054



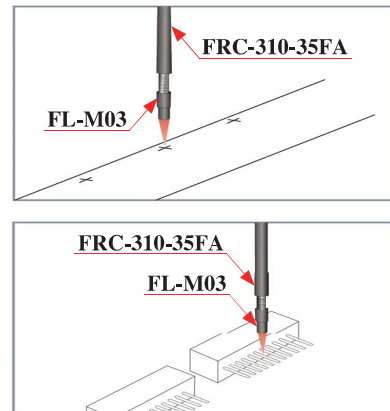
Object positioning / IC small spot deflection
物件定位 / 檢測IC腳位

F0041 Page 064 / Page 068



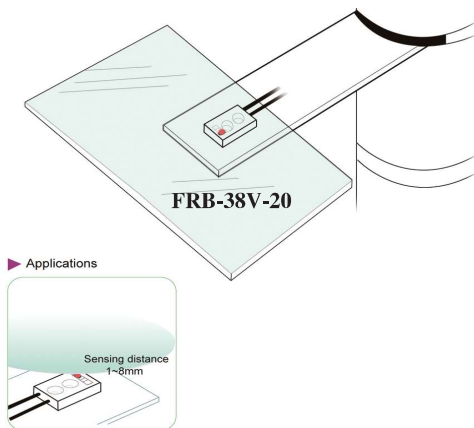
Detecting position of transparent glass.
檢測透明玻璃位置

F0042 Page 054 / Page 078



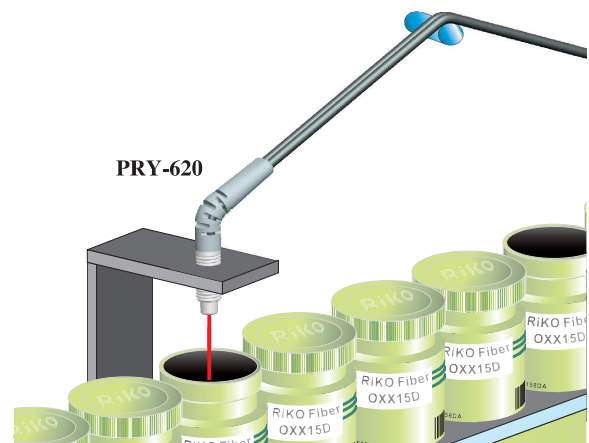
Detecting tiny mark. / Detecting IC deflection.
檢測標記 / 檢測IC是否缺腳

F0043 Page 057



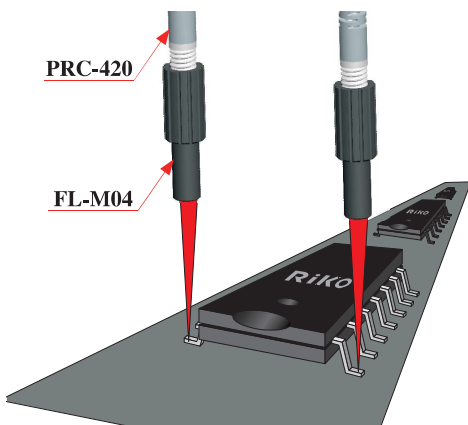
Detecting glass wafer.
檢測玻璃面板

F0044 Page 039



Detecting presence of cap.
檢測有無蓋子

F0045 Page 039 / Page 078



IC small spot deflection
檢測IC腳位

F0046 Page 039 / Page 078



Detecting tiny mark.
檢測標記

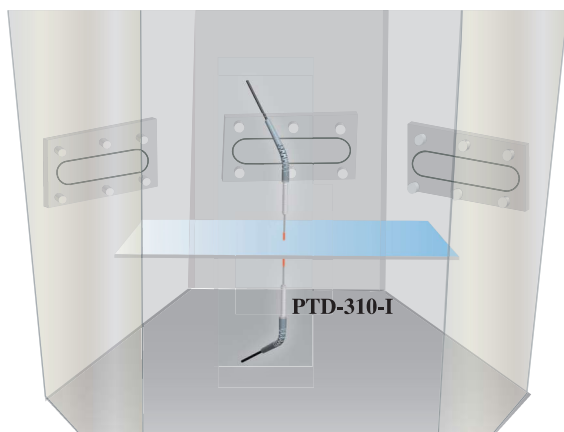
Fiber Sensor

Photo / Area Photo / Ultrasonic Sensor

Inductive / Capacitive Proximity Sensor

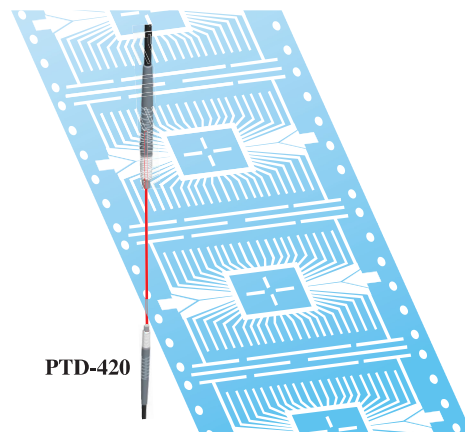
Others

F0047 Page 044



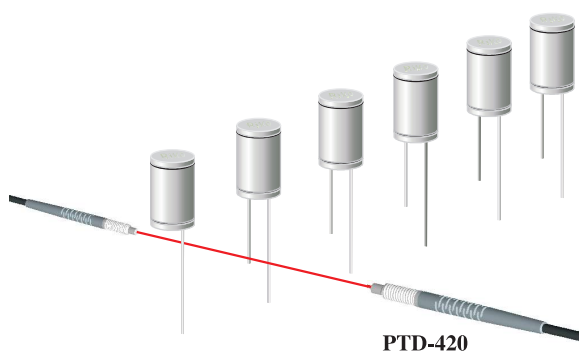
Detecting a glass in a vacuum room.
在真空室檢測玻璃

F0048 Page 044



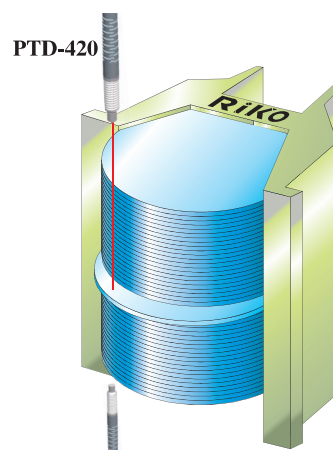
Detecting hole position of leadframe.
偵測導線架的孔位

F0049 Page 044



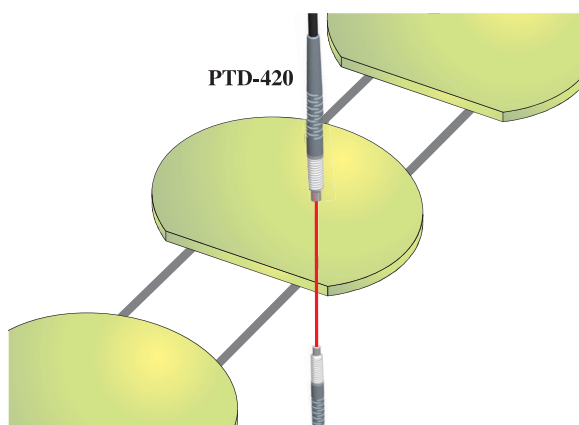
Detecting capacitor defection.
檢測電容是否缺腳

F0050 Page 044



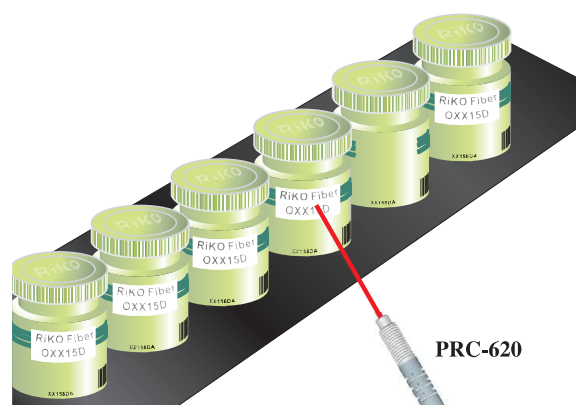
Detecting abnormal position.
檢測是否有凸出

F0051 Page 044



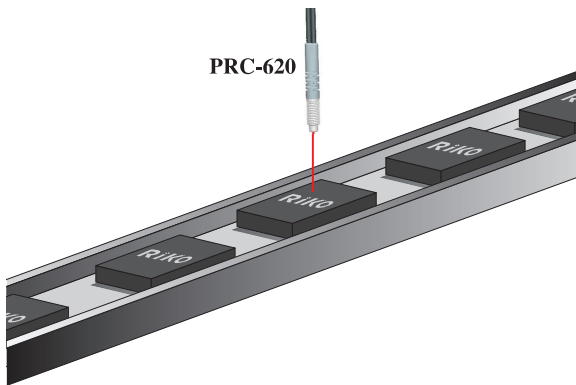
Detecting wafer.
檢測晶圓

F0052 Page 038



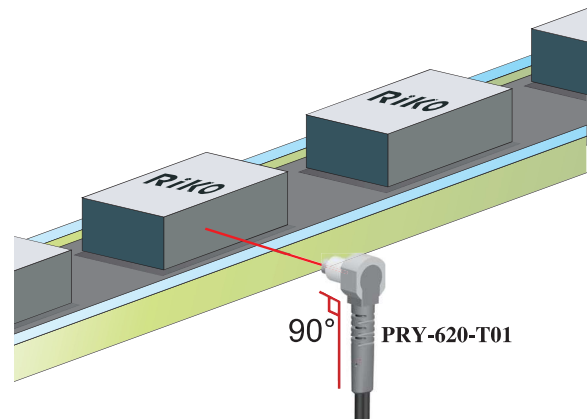
Detecting presence of label.
檢測有無標籤

F0053 Page 038



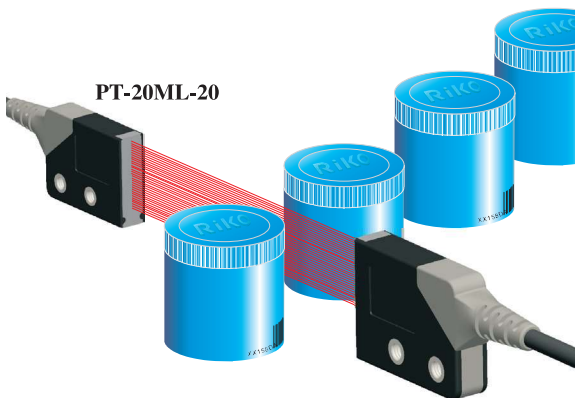
Detecting missing part of object.
檢測產品是否缺件

F0054 Page 047



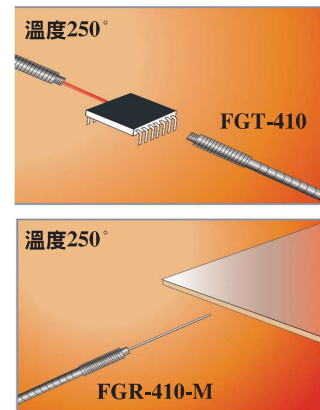
90 angle detection.
90度檢測

F0055 Page 051



Detecting missing part of object.
檢測產品是否缺件

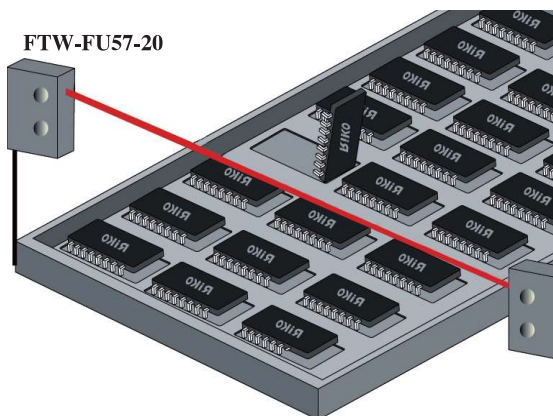
F0056 Page 066 / Page 068



Detecting IC defection in high temperature environments.
/ Detecting presence of glass plate in high temperature environments.

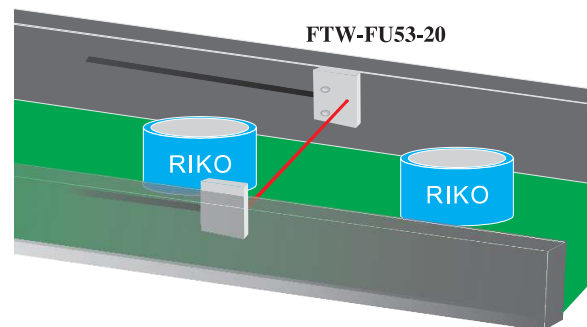
在高溫環境：檢測IC是否缺腳 / 檢測有無玻璃片

F0057 Page 061



Detecting the unseated IC.
檢測IC是否翻開

F0058 Page 061



Detecting the passing of products on line.
隨線檢測產品通過

Fiber Sensor

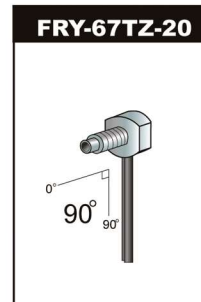
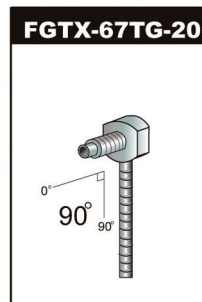
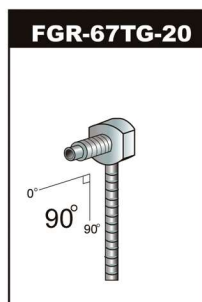
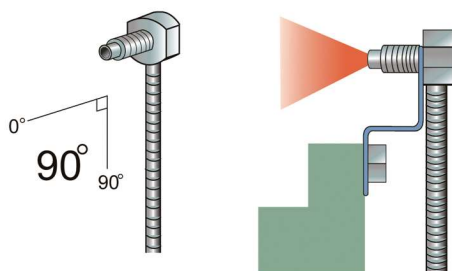
Photo / Area Photo / Ultrasonic Sensor

Inductive / Capacitive Proximity Sensor

Others

F0059 Page 068 / Page 072

Characteristic



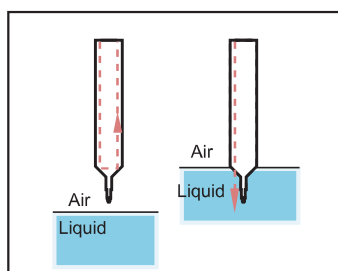
Specifications

P/N	FGR-67TG-20	FGTX-67TG-20	FRY-67TZ-20
Description	Reflective fiber optics	Thrubeam fiber optics(Glass)	Flexible
Core	Ø1.5	Ø1.5	Ø1.0 x 2
Operate temperature	-40°C ~ +250°C	-40°C ~ +250°C	-40°C ~ +70°C
Wavelength	380 ~ 1300nm	380 ~ 1300nm	650nm
Bending radius	R20	R20	R2
Nut size	M6	M6	M6
Detecting distance	80mm	500mm	70mm

Please refer to Fiber Optics Catalogue.

F0060 Page 057

Theory of detection

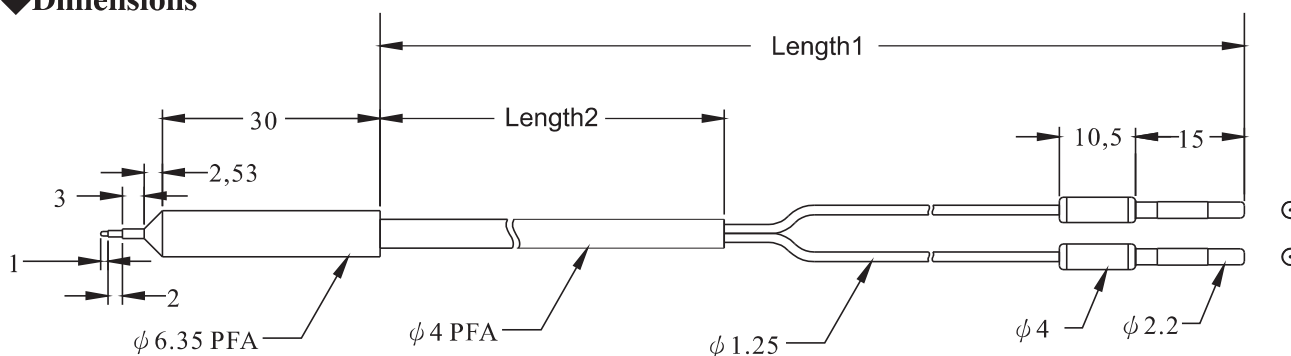


Specifications

Description	FRJ-9301-20	FRJ-9302-20	FRJ-9310-20	FRJ-9320-25
Material	Fluorine resin (Teflon)			
Sensing object	Liquid (except milkwhite liquid)			
Ambient temperature	-55°C to +70°C			
Minimum bending radius	R15 / R40			
Length1	2.0M			2.5M
Length2	10cm	20cm	1M	2M

* Unable to detect milkwhite liquid and hydrofluoric acid.

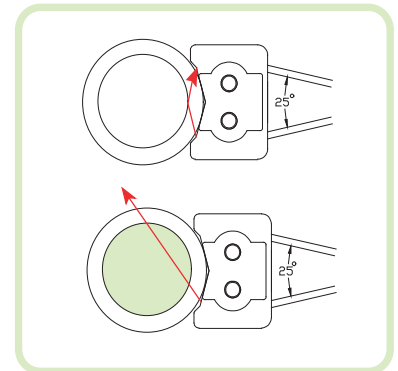
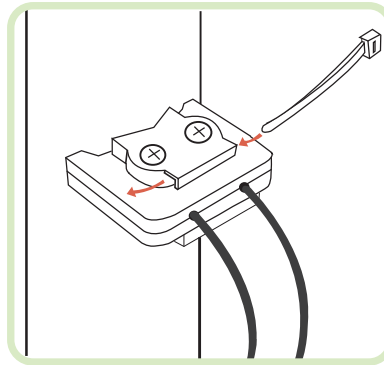
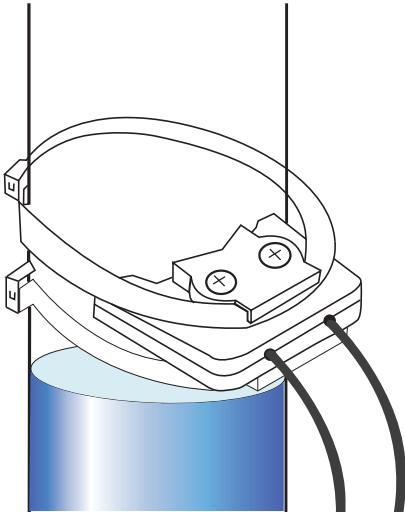
Dimensions



Fiber optic sensor fixed on the tube to detect the level of liquids:

FRD-FU901-20 is a liquid level sensor which can be easily fixed on a tube. Based on the theory of refraction, it can be easily used to detect the level of liquids inside the tube.

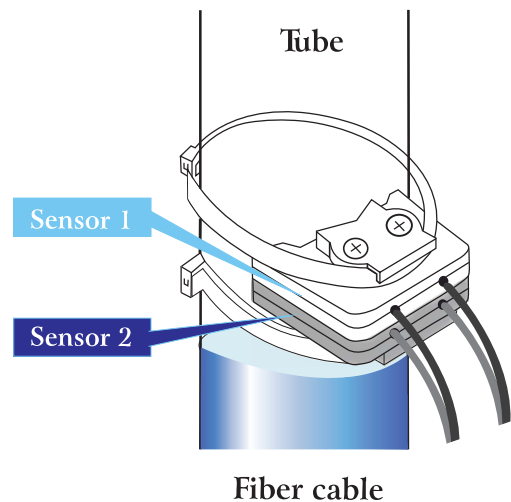
Features: light weight, easy to install (with installation band attached), small dimension.



Specifications

Model	FRD-FU901-20
Detecting object	Liquid
Tube size	Ø6~26 mm
Operating temperature	-40°C ~ +70°C
Humidity	35 to 85% RH
Bending radius	R15
Cable length	2M
Material	Housing: Polycarbonate Fiber: Plastic
Repeatability	2mm
Tube thickness under	3mm
Protection	IP50
Weight	9g
Adaptable amplifier	FZ1-N

* Remark: Milkwhite liquid excluded.



Dimensions

