

# efector<sub>m</sub> quadronorm, the application proximity switches.

Sensors type M12, M18 and M30 for the machine tool industry.



- Universal use: 4 switching functions programmable in one unit.
- IP 68 and IP 67 as well as resistant to aggressive oils and coolants.
- Quick and fast adjustment due to setting LED.
- Permanently legible laser type label.
- Increased sensing range for more plant uptime and reliable detection.

Position sensors

Increased sensing range



Robust metal version



## The quadronorm principle

Whatever output function you may require – positive or negative switching, normally open or normally closed – each variant can be implemented with these units by simply reversing the two connection wires.

## Long sensing range

The increased sensing range is ensured over the whole temperature range. It provides sufficient protection against mechanical damage. This also ensures more plant uptime.

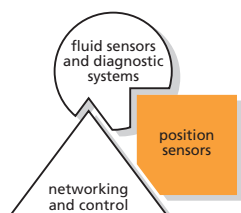
## Absolutely ingress-resistant

Long life is achieved due to a special design and additional seals as well as the use of a plastic which is resistant to oils, coolants and lubricants. All units of this series feature protection rating IP 68 and protection class II.

## Fast mounting, robust in the application

Mounting the efector<sub>m</sub> proximity switches saves precious time and thus money.

The 4-hole LED display for the switching function and the additional LED for indication of the uncertain detection range enables fast adjustment and optimum use of the increased sensing range. Due to the captive laser type label the unit can still be clearly identified after many years of operation.



## Inductive, capacitive and magnetic proximity switches

### Applications:

Proximity switch with excellent ingress-resistance for demanding applications in machine tools and industrial automation.

Position sensors

Electrical design	DC PNP/NPN (programmable)					
Connection	2-wire					
Type	M12		M18		M30	
Nominal sensing range $s_n$ [mm]	4 f	7 nf	8 f	12 nf	15 f	22 nf
Output	— / — programmable					
Order no.	IFC234	IFC235	IGC222	IGC223	IIC208	IIC209
Operating voltage [V]	10...36 DC					
Current rating [mA]	100					
Leakage current [mA]	< 1					
Short circuit protection, pulsed	•					
Rev. polarity / overl. protection	• / •					
Voltage drop [V]	< 4.6					
Current consumption [mA]	4					
Function display						
Output status	yellow (4 x 90°)					
Setting aid	LED					
Switching frequency [Hz]	700	400	300	100		
Operating temperature [°C]	-25...70					
Protection	IP 68 coolant; II					
Housing material	special coated brass					
Sensing face	LCP					
Total length [mm]	60					70
Connection	M12 connector, gold-plated contacts					
Wiring diagram						

### Sockets

Socket type	Design	Order no.
ifm	2 m (PPU), M12 angled, without LED	E10188
ifm	5 m (PPU), M12 angled, without LED	E10214
ifm	2 m (PPU), M12 straight, without LED	E10216
ifm	5 m (PPU), M12 straight, without LED	E10215

### Accessories

Description	Order no.
Plastic mounting sleeve with end stop for type M12	E11047
Plastic mounting sleeve with end stop for type M18	E11048
Plastic mounting sleeve with end stop for type M30	E11049
Angle bracket for type M12, stainless steel	E10735
Angle bracket for type M18, stainless steel	E10736
Angle bracket for type M30, stainless steel	E10737
Mounting clip, O shaped, for type M12, stainless steel	E11533
Mounting clip, O shaped, for type M18, stainless steel	E11534

### Dimensions

