

POLIFEMO

General Overview

Release 200_005



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2. INTRODUCTION

The Microgate photocell Polifemo is available in 4 different versions to satisfy the most diverse needs.

2.1. COMMON FEATURES

The common features of the various versions are:

- attractive design, conceived to conform with safety standards
- unique optical design to guarantee a long range and greater timing accuracy
- special optical and electronic technical features to ensure maximum reliability even in critical conditions of outdoor light
- internal power supply provided by rechargeable batteries (the 'smart' recharge circuit is built into the photocell) which can be replaced with two normal AA size batteries, allowing more than 18 hours of autonomous operation
- output for banana jacks, normally open, compatible with every type of timing device
- sound signal to indicate the beam has been interrupted or that the cell is not centered
- wide operational temperature range, from -25 °C a +70 °C



Microgate Photocell Polifemo

2.2. SPECIAL FEATURES

The special features of the various versions of Polifemo are:

- **Polifemo-light:** is designed for those users who need a photocell which is simple to use but also extremely reliable and accurate. Its optical range of 15 metres is enough for every situation in which the finish is not very wide (e.g. training sessions and/or materials testing). After being switched on, centered and connected to the line, the cell is immediately operational.
- **Polifemo-Radio-Light:** has the same optical range as Polifemo-Light (15 metres) but also has a built-in EncRadio_Light module for digital transmission via radio of the impulses taken, thus eliminating any need for the operator to use connecting cables. The range of the radio signal of about 300 metres is enough to cover required course distances (e.g. for tests, speed taking, etc.). It is possible to use the EncRadio-Light module to send impulses coming from other devices.
- **Polifemo-Radio:** is the top model of the photocells with a built-in EncRadio-SF module. Its greater optical range (30 metres) makes it possible to cover wide finishes while its greater radio range (2 km) allows its use further from the timing station.
- **Polifemo:** is designed for the professional or for those who require maximum flexibility of function. Many function parameters can be selected and it can cover finishes up to 30 metres in reflector mode or 90 metres if used with another photocell. The photocell has two completely independent outputs.

2.2.1. POLIFEMO

- Multipurpose Amphenol connector for direct connection to Microgate chronometers
- Possibility of selecting the line activated on the multipurpose selector
- Optical range of 30 metres
- Possibility of selecting by switch to work either in reflector mode (single) or in facing photocells mode to increase the range up to 90 metres
- Selection (in reflector mode) of use of transmission or reception
- Dead time (4 times) selectable by switch
- Possibility of sending an impulse of fixed duration (line closed for 300 ms) independently from the duration of the interruption of the infrared beam.

2.2.2. POLIFEMO LIGHT

- Maximum simplicity of use
- Optical range of 15 metres

2.2.3. POLIFEMO RADIO

- Optical range of 30 metres
- Built-in EncRadio-SF radio module
- Selection of transmission channel
- Selection of type of impulse transmitted
- Radio range about 2 km

2.2.4. POLIFEMO RADIO LIGHT

- Optical range of 15 metres
- Built-in EncRadio-Light radio module
- Selection of transmission channel
- Selection of type of impulse transmitted

- Radio range about 300 m
- Possibility of using the EncRadio-Light module to send impulses coming from other devices.

3. POLIFEMO

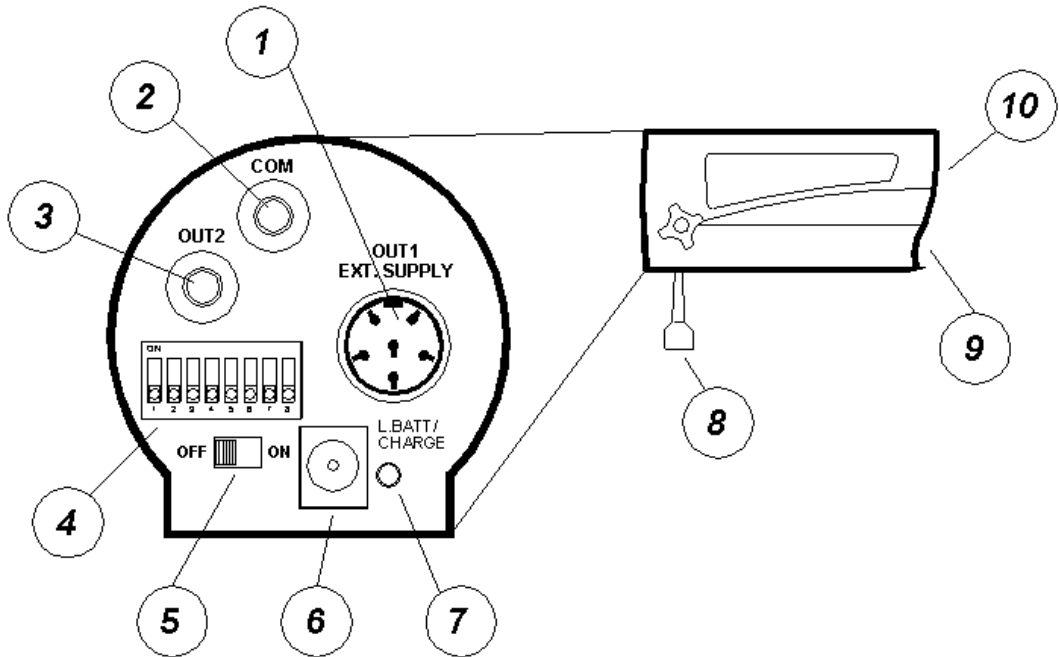


Fig. 1

- 1. OUT: 6 pole Amphenol socket
- 2. COM: Black banana socket
- 3. OUT2: Green banana socket
- 4. DIP-SWITCHES FOR SELECTING SETTINGS
- 5. ON/OFF SWITCH
- 6. RECHARGE SOCKET
- 7. SIGNAL LED
- 8. BALL-JOINT
- 9. BATTERY COMPARTMENT
- 10. LENSES

3.1. CONFIGURATION DIP SWITCHES

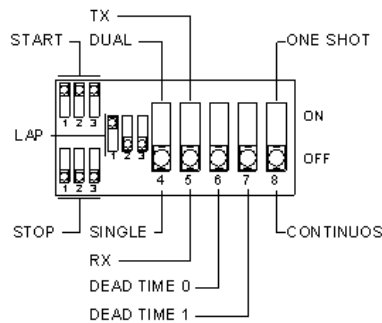


Fig. 2

4. POLIFEMO-LIGHT

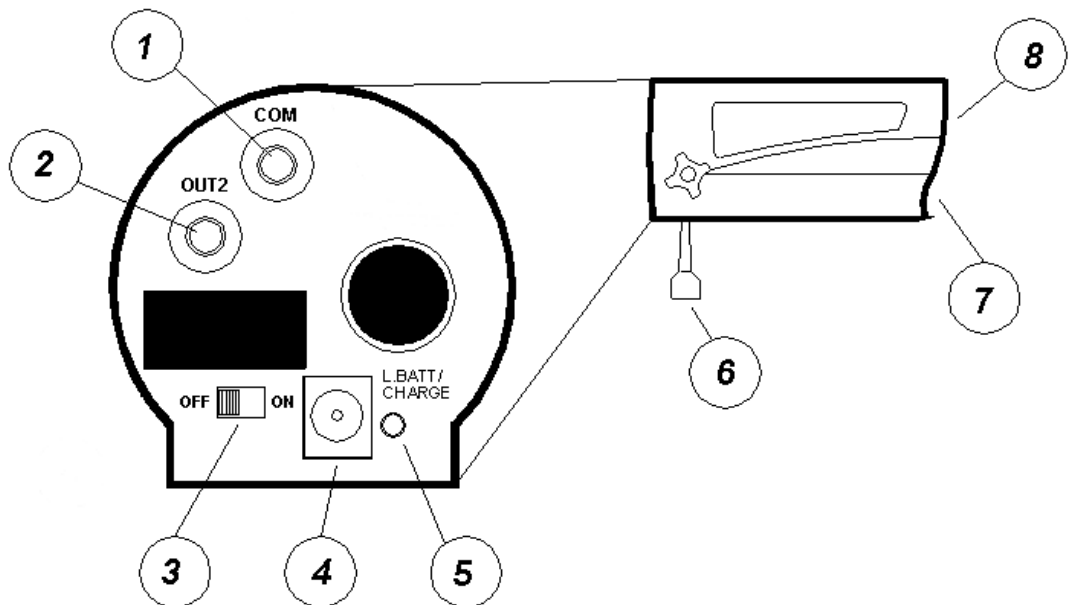


Fig. 3

1. **COM: Black banana socket**
2. **OUT2: Green banana socket**
3. **ON/OFF SWITCH**
4. **RECHARGE SOCKET**
5. **SIGNAL LED**
6. **BALL-JOINT**
7. **BATTERY COMPARTMENT**
8. **LENSES**

5. POLIFEMO-RADIO

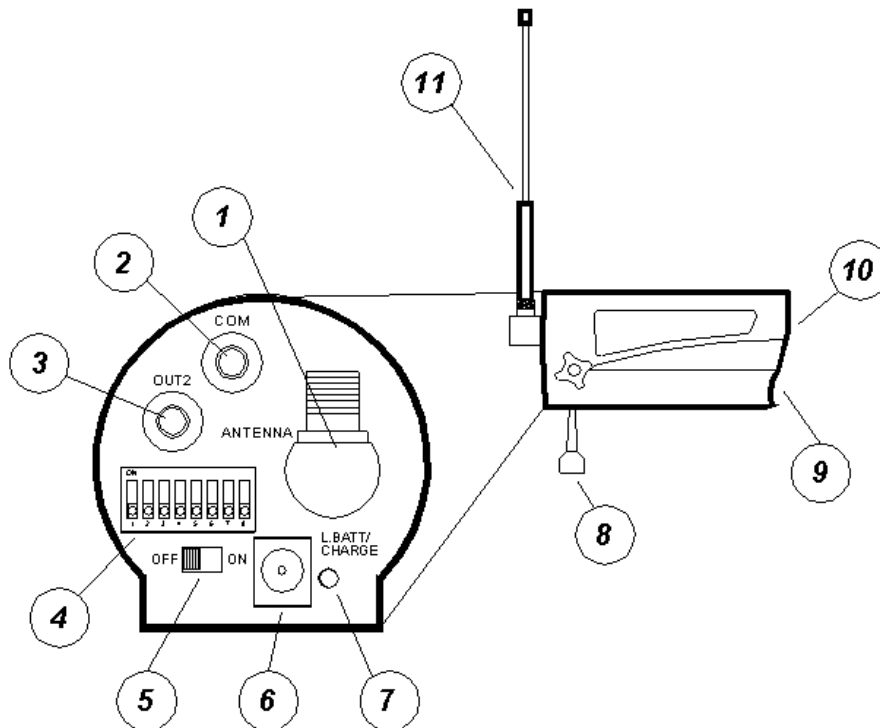


Fig. 4

1. TNC CONNECTOR FOR EXTERNAL ANTENNA CONNECTION
2. COM: Black banana socket
3. OUT2: Green banana socket
4. DIP-SWITCHES FOR SELECTING SETTINGS
5. ON/OFF SWITCH
6. RECHARGE SOCKET
7. SIGNAL LED
8. BALL-JOINT
9. BATTERY COMPARTMENT
10. LENSES
11. EXTERNAL ANTENNA

5.1. CONFIGURATION DIP SWITCHES

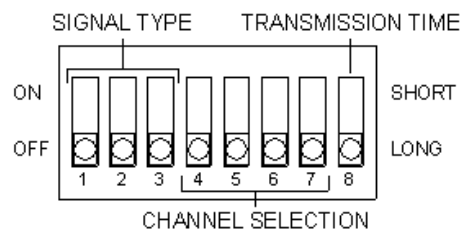


Fig. 5

6. POLIFEMO-RADIO-LIGHT

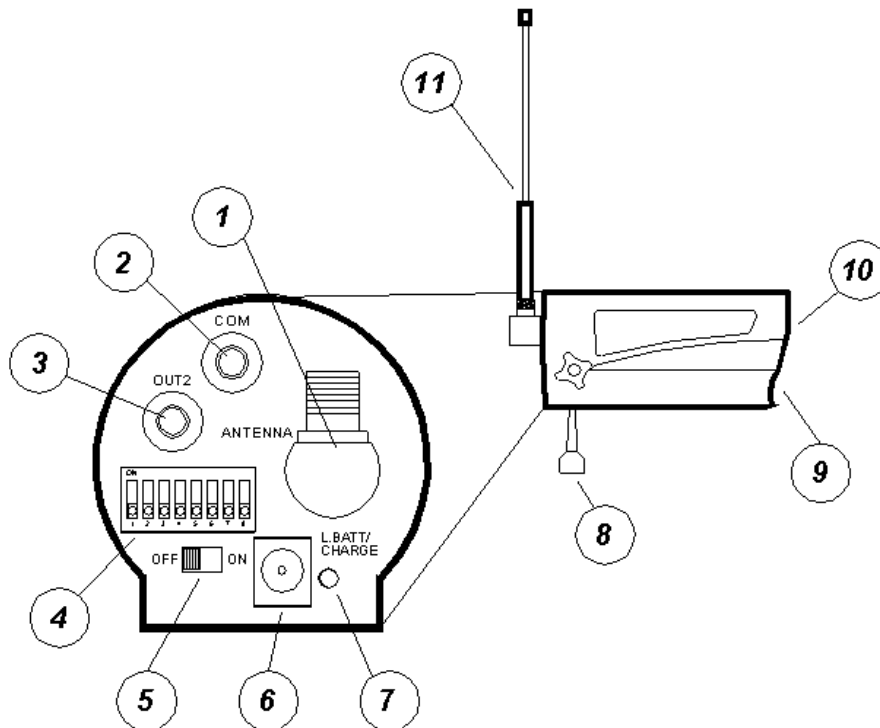


Fig. 6

1. TNC CONNECTOR FOR EXTERNAL ANTENNA CONNECTION
2. COM: Black banana socket
3. OUT2: Green banana socket
4. DIP-SWITCHES FOR SELECTING SETTINGS
5. ON/OFF SWITCH
6. RECHARGE SOCKET
7. SIGNAL LED
8. BALL-JOINT
9. BATTERY COMPARTMENT
10. LENSES
11. EXTERNAL ANTENNA

6.1. CONFIGURATION DIP SWITCHES

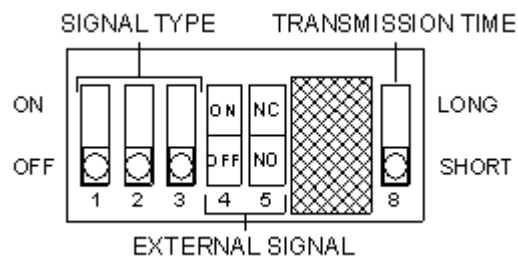


Fig. 7

7. TECHNICAL DATA

		Polifemo	Polifemo -Light	Polifemo -Radio	Polifemo -Radio- Light
Weight					
Size		59 x 180 x 104 (l x p x h)			
Minimum resolution		0,125 ms			
Delay in relation to event		1 ms			
Temperature of use		-25 °C/+70 °C			
Power supply:					
	batteries	rechargeable: NiCd, NiMH 1.2V non-rechargeable: alkaline 1.5V			
	external power source	5V÷13V with overvoltage-protection			
	recharge	8V÷13V with overvoltage-protection			
	overvoltage-protection	✓	✓	✓	✓
	battery recharge	Built-in 'smart' recharge device			
	autonomy	18 hours			
Processor		8 bit C-MOS microprocessor			
Connections:					
	multipurpose 6 pole plug	✓			
	optoinsulated banana jack	✓	✓	✓	✓
Optical range:					
	15 m		✓		✓
	30 m	✓		✓	
	90 m (facing cells)	✓			
Controls: <i>Dip-switch</i>					
	line activated	✓			
	single/double	✓			
	TX/RX	✓			
	dead time	✓			
	continuous/one shot	✓			
	type of signal transmitted (Start, Lap 1..6, Stop)			✓	✓
	long/short signal			✓	✓
	Transmission of impulses from other devices				✓

Radio transmission:					
	FSK digital transmission; redundancy code with information accuracy check and self-correction			✓	✓
Transmission channels	(16 channels selectable)			✓	
Impulse transmission precision	± 0.4 ms			✓	✓
Time base	4 MHz quartz ±10 ppm from -25°C to +50°C			✓	✓
Radio transmission range:					
	about 2 km			✓	
	about 300 m				✓

8. LINKGATE_SF DECODER TECHNICAL DATA

Weight	120 g
Size	65 x 50 x 30 mm (l x h x w)
Reception mode	FSK decoding
Time base	4 MHz quartz
Operating temperature	-25° / +70°C
Power supply	5 Vcc, supplied directly from chronometer
Connections	Cable with 5 pole connector for connection to chronometer