

Direction Finder PA030

Brief description

The VHF Direction Finder PA030 is a system for air traffic control mainly. Applications include: approach aid, superposition on radar screens and position finding by triangulation. Furthermore and according to ordered software type, the system is suitable for monitoring, identification, and direction finding of ship traffic at sea and at coast area. Search and rescue missions may be supported. The system is outstanding due to the flexible unit concept and the compact antenna, which favours the selection of an antenna position having good receiving conditions for direction finding. The equipment has an automatic built-in test routine, which controls functions and values at different levels. Any possible failure will be diagnosed and shown on the frequency display.

Characteristics

Special features

- Due to the high flexibility of system components adaptable to any local situation



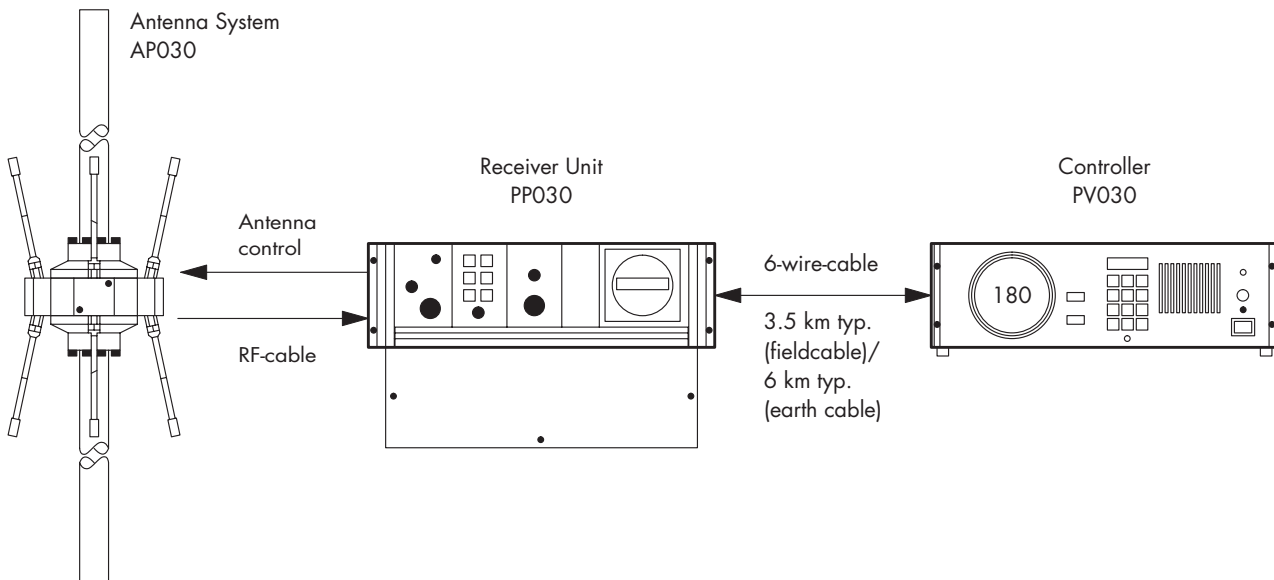
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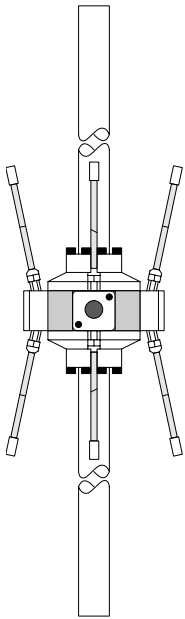
- Unproblematic use even at unfavourable locations thanks to a new remote operation concept
- Direction finding of ELT transmitter and overmodulated signals
- Modulation-independent direction finding
- Compact antenna for easy installation
- Effective direction finding quality analysis with patented dual compass dial
- High operational safety due to lightning protected antenna system
- Noise-free message monitoring
- Prepared for additional standard interfaces
- Service-friendly due to comprehensive modular design

- AC supply and battery operation
- Failure status monitoring at frequency display

Description

The system operates in remote operation. The direction finding antenna is installed remotely from the controller at a location favourable for direction finding. Receiver, demodulator and antenna control module are integrated in a receiver unit located near to the antenna. They are connected to the controller by means of a 6-wire cable.

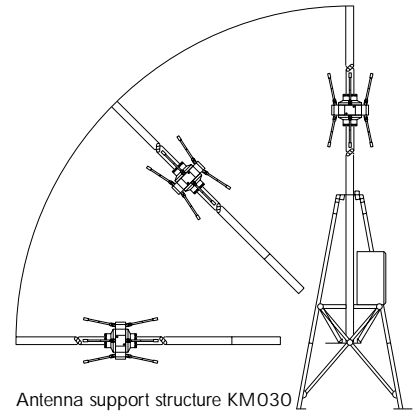




Antenna system
AP030

Antenna system

The extremely compact Doppler direction finding antenna operates with just 4 dipoles. A rod at the top protects against lightning. The low weight and the small dimensions significantly decrease the efforts for installation and maintenance as compared to conventional antenna systems. A simply radiator change makes it possible to adapt the antenna to various frequency ranges.



Antenna support structure KM030

Antenna support structure

The special mast KM030 is recommended for the antenna system. The mast has a fixture which makes it possible to tilt the antenna down to working level to facilitate assembly and

maintenance of the antenna. The integrated rotating stand makes it possible to rotate the antenna in 10° steps to effectively check the direction finding system. In addition, there is a weather-proof housing for the receiver unit.

Specifications

Basic function	Doppler principle
Frequency range	Alternatively acc. to ordered software type PA030S(:):
with PA030S1:	ATC band 118 to 136.975 MHz
with PA030S3:	Maritime Band
	156 to 174 MHz and
	ELT/EMERG frequency 121.5 MHz
with PA030S4:	ATC + maritime bands
Channel spacing	Frequencies or channels can be blocked
Scanning	25 kHz
DF channel	integrated as standard
	1: standard
	2: with PP030R2 etc (see below)
System accuracy	±2° rms (with antenna)
Sensitivity	≤10 µV/m (without antenna amplifier)
Interfaces, receiver-controller	serial V.24 (RS-232-C), parallel

Bearing display	
Response time	≤0.3 s
Digital (QDM)	3 digits with 7-segments LED indicator
Analog (QDR)	dual compass dial (= 2 concentric circles of LEDs)

Dimensions/weight

Controller	PV030, 19" desktop 3 HU, prepared for rackmounting
Dimensions H x W x D	132.5 mm x 448 mm x 370 mm
Weight	7.2 kg

Receiver unit	PP030, cabinet for wallmounting
Dimensions H x W x D	250 mm x 340 mm x 285 mm
Weight	6.5 kg

Antenna system	AP030
Dimensions (dia. x H)	400 mm x 1120 mm
With lightning rod and mast	400 mm x 3400 mm
Weight	3.6 kg

Power supply

AC	115/230 V ±15%, 47 to 63 Hz
DC	24 V +20% -10%
Automatic switchover to DC voltage in case of AC supply failure	

Temperature range

Operational	
Antenna	-40 to +80°C
Receiver unit	-40 to +60°C

Controller

-20 to +55°C

Ordering information

Basic DF-System

VHF DF System	PA030	6002.8394.04
Versatile basic set for 1 DF channel, prepared for aeronautical and maritime band (see PA030S...), expandable to 2nd DF channel, consisting of:		
DF Antenna, incl. mast tube, lightning rod, cable set AP/PP	AP030	6002.2796.02
Receiver Unit	PP030	6002.2815.04
Controller w/o. cable	PV030	6002.2773.04
Software (see "frequency range")	PA030S1	6002.8459.02
	PA030S3	6002.8471.02
	PA030S4	6002.8488.02

Extra order items for a 2nd DF channel:

2nd DF Channel Integration Kit	PP030R2	60002.8394.02
Software	PA030S(:)	see above
Controller	PV030	see above

Recommended extras

Antenna support structure consisting of:	KM030	6002.2850.02
Rotatable antenna platform, tiltable mast for installation and maintenance, weatherproof housing for installation of receiver unit, lightning protection, installation material, manual		
Emergency power supply 24 V _{DC}	IN030A1	6002.8288.02
Consisting of charger unit, 2 rechargeable batteries, switching device, manual		
Hazard light	HZ030	6002.8365.02
Cabinet	PA030Z	6002.2996.02
Weatherproof, with lightning protection, installation material, manual, for installation of receiver unit at customer's own antenna mast		
Service Kit	PS030	6002.2838.02
Consisting of antenna simulator, 4 x interface cables, extender cards, case and manual		
Further extras		on request