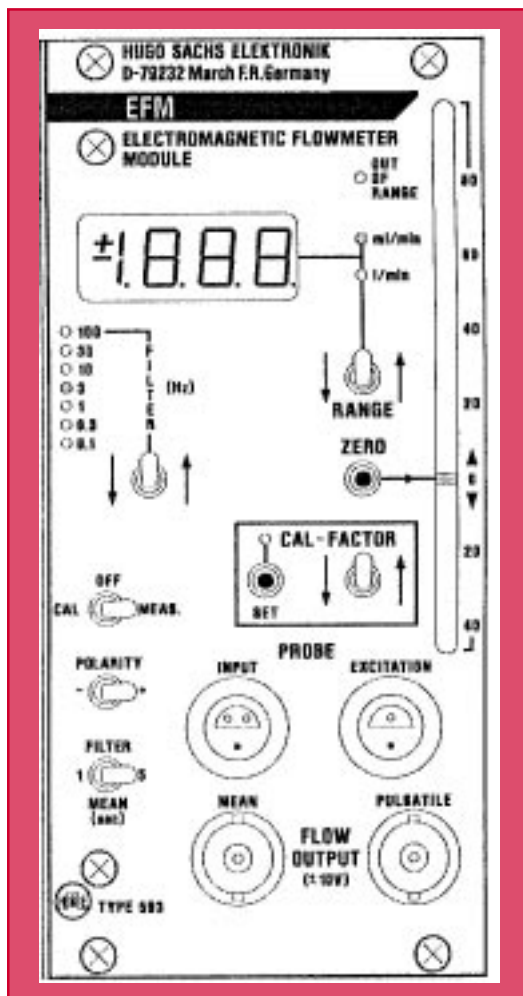


HSE-Harvard* Electromagnetic Flowmeter Module (EFM)

- Bar graph display for visualizing dynamic flow signals and digital display for mean flow reading
- Floating input and floating excitation
- For in-vivo bloodflow measurement using perivascular probes, or for in-vitro perfusion flow measurement using cannulated in-line probes

The HSE-Harvard* Electromagnetic Flowmeter Module (EFM) been developed to measure the arterial or venous bloodflow using perivascular flow probes in cardiovascular studies, or perfusate flow using cannulated flow probes in organ perfusion systems. The excitation and the input circuit are isolated (floating) to avoid measurement errors due to ground loops and leakage currents (potential separation between excitation coil, sensing electrodes and circuit ground of the PLUGSYS measuring system). The module features a built-in digital display for direct reading of mean flow and an analog display for watching the pulsatile signal. Four flow ranges can be selected, the flow range depends on the flow probe. The instrument has mean and pulsatile outputs for recording, both can be recorded simultaneously. An electronic circuit allows to synchronize two or more units in the same PLUGSYS system case.



Specifications

Excitation	Modified square wave 1 kHz, constant current 500 mA through 2-pin connector, floating output
Input	Floating input, differential through 3-pin connector, input impedance 20 MOhm, Common mode rejection ratio > 100.000:1
Flow Range	±100.0 ml/min, ±1000 ml/min, ±10.00 l/min, ±100.0 l/min
Signal Output	1. On front panel through BNC sockets ±10 V FS, pulsatile and mean 2. Through bus connector to PLUGSYS measuring system (jumper selectable) ±10 V FS, pulsatile and mean
Flow Direction	Can be inverted by switch polarity
Output Low-Pass Filter	1. On pulsatile output 7 positions 0.1 to 100 Hz selected by rotary switch 2. On mean output selectable by switch: 1 sec or 5 sec
Analog Indication	Through LED bar graph +20 LED's / -9 LED's for visual check of pulsatile signal; sensitivity 50 mV/LED
Digital Indication	4-1/2 digit LED display (decimal point automatically set by range selector)
Calibration	Recording output can be calibrated using CAL-FACTOR switch, gain calibration is controlled by CAL-FACTOR switch and calibration push-button SET according to calibration factor of probe
Zero Flow	Automatic zero adjustment by pressing button
Synchronization	Synchronization output or input can be connected to PLUGSYS bus for synchronization of more units, selector on unit selects master or slave mode
Power Supply	5 V 0.4 A and 24 V 0.8 A through connector from PLUGSYS bus system
Dimensions, H x W x D	128.7 x 60.6 x 220 mm (5.1 x 2.4 x 8.7 in)
PLUGSYS Width*	3 slot units
Weight	0.4 kg (0.9 lbs)

Catalog No.

Product

CGS 8421.71

EFM Electromagnetic Flowmeter Module