



Measurement and Amplifier Interface

MAI

The electronic measuring instrument MAI with proportional valve amplifier is used as an interface from the hydraulic VISCOTHERM drive system to the main controller (PLC). The measuring instrument works with a proven, efficient microprocessor, thus precise measurements and adjustments are possible (digital signal processing).

The amplifier board necessary for the operation of a proportional valve is integrated. All measured values as well as the set point of the differential speed are transferred to the main controller (PLC). The bus versions have an integrated pressure sensitive regulation function, this function is remote controlled by the PLC. Instead of the proportional valve a frequency converter including power motoring can be connected.

The use of modern fieldbus technologies reduces the wiring and makes the entire process more stable in relation to electrical and electromagnetic influences. Such influences can for example be developed from frequency converters and other circuit-breakers.

- Application for:**
- Pump unit VFD
 - Pump unit B/C
- Host interfaces:**
- Profibus DP or
 - Ethernet/IP or
 - Analog values
- Data exchange:**
- Measured values (all)
 - Control parameters Δn , α , P_1 , P_2 und P_3
 - Status and error conditions
- Measurement of:**
- Bowl speed
 - Scroll speed
 - Hydraulic pressure (torque)
 - Oil temperature
 - Motor power monitoring (VFD)
- Collection of:**
- Oil level alarm
 - Oil temperature alarm
 - Filter blockage alarm
- Control of:**
- Differential speed (proportional valve or setpoint of VFD)
 - Oil air cooler
- Alarm output:**
- Pre-alarm (cut-off product feed)
 - Pressure warning P_2 ◦ Oil temperature warning ◦ Motor power warning
 - Oil level warning ◦ Zero differential speed warning
 - Alarm (cut-off bowl drive)
 - Pressure alarm P_3 ◦ Oil temperature alarm ◦ Motor power alarm
 - Oil level alarm ◦ Filter blockage alarm
- Display of:**
- Measured values (all)
 - Control parameters Δn , α , P_1 , P_2 und P_3
 - Status and error informations
- Local operation:** Direct adjustment for the control parameters possible for setup and emergency operation



HYDROSTATIC DRIVE SYSTEM FOR DECANTER CENTRIFUGES

Technical data

Dimensions (w×h×d):	165×130×125 mm (6,7"×5,1"×4,9")
Weight:	0,9 kg
Installation:	Standard DIN rail
Temperature range:	0...40°C
Power supply:	100...240 VAC / 47-63 Hz
Power consumption:	60 W
EMC:	<ul style="list-style-type: none">• Emitted interference: Class B to EN55022 (corresponds to CISPR 22)• Conducted interference on voltage supply lines:<ul style="list-style-type: none">◦ ±2 kV nach IEC 1000-4-4 (burst)◦ ±1 kV nach IEC 1000-4-5 (ms-pulse), line to line◦ ±2 kV nach IEC 1000-4-5 (ms-pulse), line to earth• Immunity to interference on signal lines:<ul style="list-style-type: none">◦ ±2 kV nach IEC 1000-4-4 (burst)• Immunity to discharge:<ul style="list-style-type: none">◦ ±6 kV nach IEC 1000-4-2 (ESD), contact discharge
Connection:	Pluggable connector terminal, except supply
Fuses:	<ul style="list-style-type: none">• „Self healing” fuses• 5×20 mm for proportional amplifier
System integration:	<ul style="list-style-type: none">• MAI311: Analog signals 4-20 mA• MAI312: Profibus DP• MAI314: Ethernet/IP

System overview

Measured values

