

Digital Drivers 2009

Digital Electrohydraulics Developments

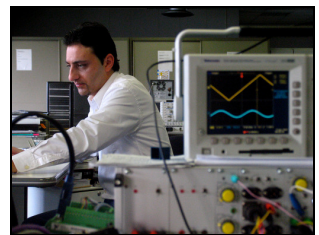
Atos digital electrohydraulics is the result of R&D activities on innovative DSP microcontrollers, simulation models of valves and systems, development of advanced software, extensive field testing of new components and solutions.

A wide range of digital electronics is now available within the Atos electrohydraulics line in order to exploit the well known advantages of digital technology:

- enhanced performances: hysteresis, response time, linearity and stability
- easy software setting of scale, bias and ramps
- software configuration of input reference signal, dither and valve's dynamic behaviour
- software compensation of the regulation's non linearities
- PC saving of the customized parameters for quick and repetitive setting of further valves for same application
- easier diagnostics (alarm, fault, monitor) and computer assisted maintenance
- fieldbus interfacing is available on top range driver's for simplified wirings and real time communication of commands, feedback monitors and diagnostics



Digital Electrohydraulics



Electronic R&D department

Digital drivers

New digital drivers for proportional valves are summarized here below. They are alternative to the analog ones, adding valuable plus and advanced features:

NEW E-MI-AS - DIN plug-in format for valves without transducer - tab. G020/E

- digital evolution of analog E-MI-AC driver, for mounting on single or double solenoid proportional valves
- infrared programming device for installation and maintenance without any manual intervention or driver disassembling
- electrical connection: new M12 connector or 5 m cable
- entry level for digital technology available at competitive price
- new hydraulic power limitation function is available for flow control proportional valves. The driver has to be connected to a pressure transducer installed in the hydraulic system. When the actual $p \times Q$ reaches the max power value, preset by software, the driver reduces the flow regulation - see scheme at side. The higher is the pressure feedback the lower is the valve's regulated flow.



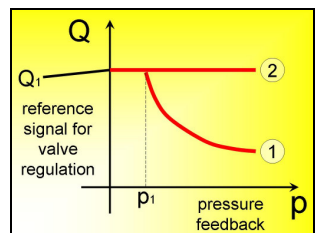
E-MI-AS DIN plug-in driver

NEW E-BM-AS - DIN rail panel format for valves without transducer - tab. G030/E

- digital evolution of analog E-BM-AC driver, for up to 2 single or 1 double solenoid proportional valves
- high performances, with Serial RS232 communication interface
- 4 plug-in connectors for easy replacement
- new internal generation of references signal selected by external on/off input, can be software activated. Default : external analog reference signal
- new hydraulic power limitation function is available for flow control proportional valves. The driver has to be connected to a pressure transducer installed in the hydraulic system. When the actual $p \times Q$ reaches the max power value, preset by software, the driver reduces the flow regulation - see scheme at side. The higher is the pressure feedback the lower is the valve's regulated flow.



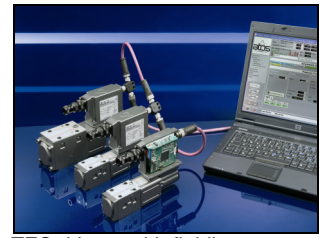
E-BM-AS DIN rail panel driver



E-BM regulation curve ① with and ② without power limitation. $p_1 \times Q_1 = \text{max power limit}$

Drivers E-RI-AES/TES/LES/TERS/AERS - Integral to valve - [tab. G115/G205/G210/E](#)

- best performances for proportional and servoproportional valves for pressure, flow and directional controls
- dynamic response (P.I.D. parameters set) can be optimized to the application
- AES execution, for valves without transducer : same performance of E-BM-AS
- AERS execution does not include the pressure transducer, which is installed in the hydraulic system where the pressure has to be controlled
- Fieldbus communication interfaces: Serial, PROFIBUS DP, CANopen or Powerlink
- the valve connected to the fieldbus is automatically recognized without any additional operation by the user



TES drivers with fieldbus

NEW Ex proof drivers type E-RA - [tab. F250/E](#)

- digital integral electronics for the full range of Atos ex-proof proportional valves, is unique and really competitive for any hazardous environment
- electronics industrial design and heavy duty construction
- available for Ex-proof valves in AES, TES, LES, TERS or AERS executions
- digital diagnostics (alarm, fault, monitor) is really appreciated in dangerous environments
- Atex protection mode Ex II 2G Ex d IIC T6 for surface plants with gas or vapour environment category 2, zone 1 and 2
- fieldbus communication solves the tricky problems related to the wiring of electronic signals in hazardous areas by simply requiring only one electric supply line and one communication line for the many valves installed in the system
- Only Moog has similar products but with limited range, special design and high prices and long term delivery terms
- Main application sectors : Oil & Gas , Energy industry , Chemical plants and Mining



TERS pressure controls



Ex-proof driver and valve

NEW Download Area on www.atos.com

Digital technology evolves thanks to continuous R&D activities, particularly focusing the development of software and firmware to extend the digitals advantages and functionalities, see the updated [tab. G500/E](#)

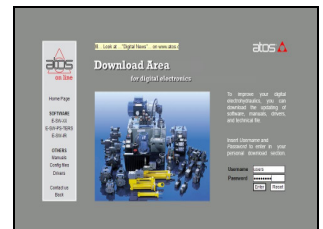
A new download area is now available in the Electronic section of Atos catalog on-line (<http://download.atos.com>) to enable the updating of the products in the field with the last releases of :

- **Software** PC programming softwares
- **USB Drivers** drivers for USB interfaces, etc.
- **Config Files** technical manuals for fieldbus configuration files
- **Manuals** manuals for software and fieldbus systems

The updated software and USB drivers can then be easily installed following the instruction detailed in the "info.txt" files available in the downloading section.

The access password to download area is released by Atos upon receiving of the registration form supplied with the first purchase of digital electronics.

An automatic mailing message will inform the registered users whenever a new software upgrade or technical documentation is available.



 A screenshot of the 'drivers' download page on the Atos website. It shows a table with columns for File, Ver., Desc., and Download.

File	Ver.	Desc.	Download
Info.txt		Read file	txt
SOFTWARE E-RI/AES E-RI/AES USB E-RI/AES USB	4.1.1	Driver for USB to CAN/RS485 Interface	exe
SOFTWARE E-RI/AES E-RI/AES USB	2.0.0.0	Driver for USB to PROFIBUS Interface	zip
SOFTWARE E-RI/AES E-RI/AES USB	4.0	Driver for USB to PROFIBUS Interface	exe
SOFTWARE E-RI/AES E-RI/AES USB		Driver for USB to RS232 Interface	zip

Download area on www.atos.com