



ENGINEERING

MEASUREMENT  
SYSTEMSFLEET  
MANAGEMENT

ENERGY



# ROTEC

## PHASE SHIFTER

Apart from providing various sensors, VISPIRON does also offer several electronic units for signal processing and adaption of sensor signals. Examples are the rotary encoder adapter (DGADP) or the electronic adaption unit for ROTEC laser sensors.

This group is now enhanced by the phase shifter. Users are offered the possibility to retard an encoder's reference pulse by an adjustable number of pulses within one revolution. The position of the absolute angle can thus be set. The phase shifter can for example be used to align the reference angle for a valvetrain analysis without the user being forced to de- and reconnect the encoder for turning it. Depending on which valve there is to be measured, the number of retarding pulses is simply set on the phase shifter.

A very common application is the combination of a phase shifter, an encoder and a rotary encoder adapter (DGADP) made by VISPIRON. The DGADP converts all differential signals output by the encoder into square wave TTL levels and – if wanted – reduces or increases the number of pulses. The DGADP's output thus delivers the sensor signal, the reference signal and a bit for the detection of the rotational direction. Usually all signals are sent directly to the ROTEC speed board.

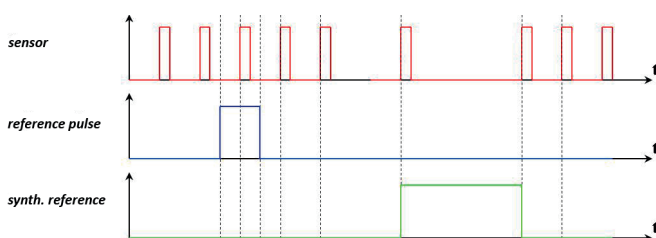
All connectors of the phase shifter are made such that it can be connected in line between the DGADP and the speed board. Both sensor signal and the directional bit are looped through from in- to output. The reference pulse however is replaced by a synthetic pulse.

The reference pulse is being delayed by a set number of pulses, which can be chosen using the code switches on the front panel of the electronic unit.



### TECHNICAL SPECIFICATIONS

- input signal: square level TTL
- power supply: +9 V to +18 V (nominal: +12 V)
- output signal: square level TTL  
min. 100 ns pulse width



Example: (Increments = 00003)