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VARIABLE SPEED DRIVES

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Digital Drive Systems

Option Module AP-IF1
for feeding an external sensor signal into the encoder input (AZ / AW / KU) as a reference pulse

Important advice:

Touching of the electrical connections on the plug-in card must be avoided, otherwise electronic components could be destroyed through static discharge.

Take plug-in card directly out of packing and insert into the option slot in the AZ module without using force. Then secure with screw below the card grisp.

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Option module AP-IF1

for feeding an external sensor signal into the encoder input (AZ / AW / KU) as a reference pulse.

Board AP-IF1 is installed on a PHOENIX UMB-frame (dimensions: 68 mm x 77 mm / 2.68“ x 3.03“). The module is snap-mounted on a DIN rail in the electrical cabinet.

For connection shielded cables, twisted-pairs, must be used. The cable length between X1 connector and inverter must not exceed 0,5 m / 1.6 ft. The cable shield has to be grounded double-ended.

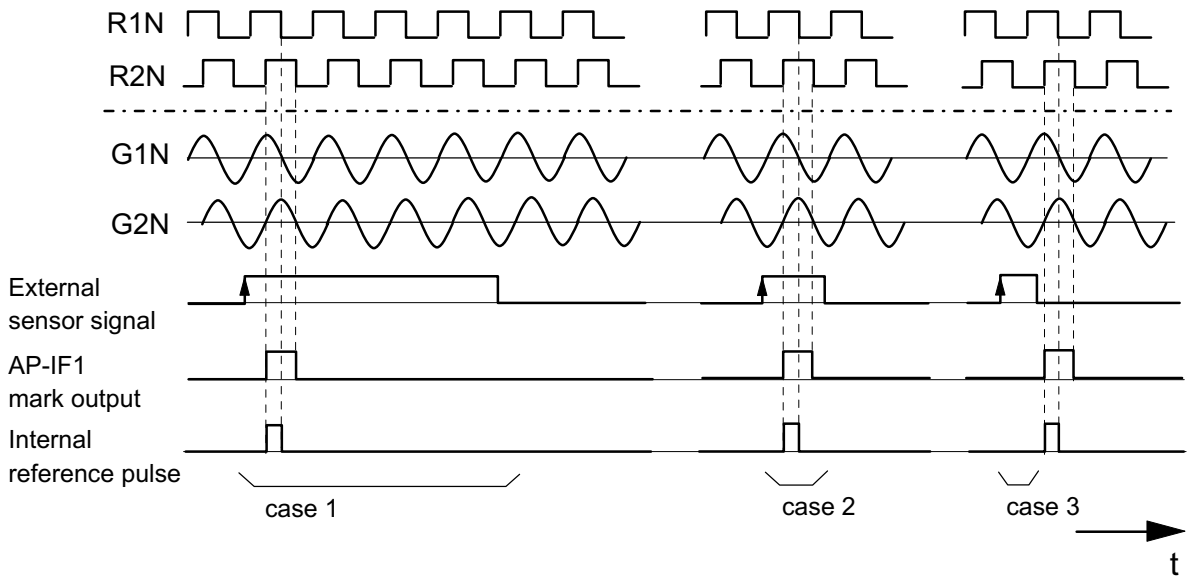
With option module AP-IF1 it is possible to feed a trigger signal from an external sensor exactly and accurately timed into the encoder input, replacing the regular encoder reference pulse. This is required for specific applications like

- Homing cycle with cam evaluation as internal reference pulse
- Register mark control
- „Flying cutter“ etc.

The external sensor is supplying either a + 24V or a + 5V trigger signal. For a 5V signal jumper BR2 must be set on AP-IF1 module.
The pulse width of the sensor signal must be ≥ 3 micro seconds.
Only the positive edge of the sensor signal is evaluated.

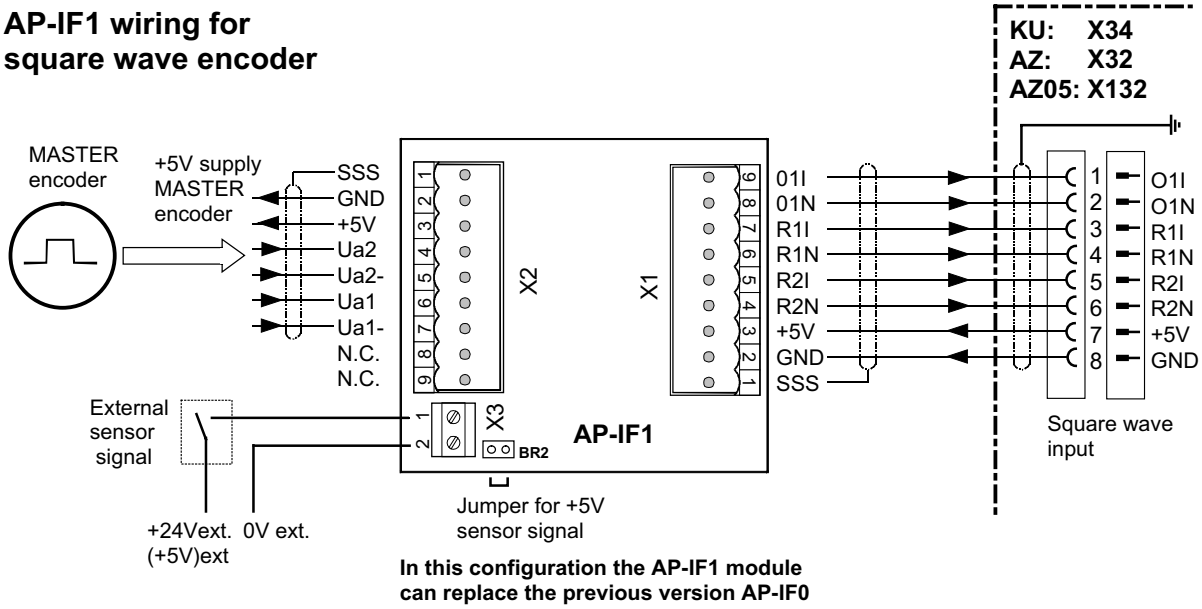
The sensor signal is optically isolated and the signal is conditioned for the differential input on the inverter. Simultaneous the mark output signal internally is synchronized with the encoder tracks 1 and 2 (see „Timing diagram“).

Timing diagram:



Option module AP-IF1 can be used connected to a sinusoidal encoder or to a square wave encoder:

AP-IF1 wiring for square wave encoder



In this configuration the AP-IF1 module can replace the previous version AP-IF0

AP-IF1 wiring for sinusoidal encoder