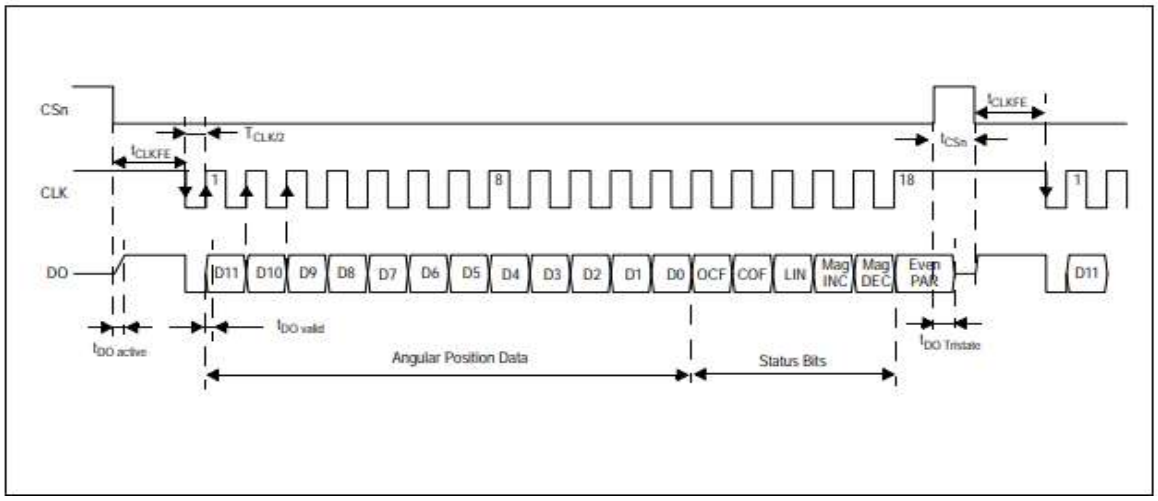
OPKON MODEL MRA ENCODER SSI INTERFACE

DO: Data Output of Synchronous Serial Interface
CLK: Clock Input of Synchronous Serial Interface; Schmitt-Trigger input
CSn: Chip Select, active low; Schmitt-Trigger input



If CSn changes to logic low, Data Out (DO) will change from high impedance (tri-state) to logic high and the read-out will be initiated.

• After a minimum time tCLK FE, data is latched into the output shift register with the first falling edge of CLK.

• Each subsequent rising CLK edge shifts out one bit of data.

• The serial word contains 18 bits, the first 12 bits are the angular information D[11:0], the subsequent 6 bits contain system information, about the validity of data such as OCF, COF, LIN, Parity and Magnetic Field status(increase/decrease).

• A subsequent measurement is initiated by a “high” pulse at CSn with a minimum duration of tCSn.

D11:D0 – absolute angular position data

OCF: Offset Compensation Finished- DO NOT CARE

COF: CORDIC Overflow, logic high indicates an out ofrange error in the CORDIC part.-DO NOT CARE

LIN: Linearity Alarm -Internal Error

MagINCn: Magnitude Increase -Internal Error

MagDECn: Magnitude Decrease -Internal Error

Symbol	Parameter	Min.	Max.	Unit
$t_{DO\ active}$	Data output activated (logic high)		100	ns
$t_{CLK\ FE}$	First data shifted to output register	500		ns
$T_{CLK\ /\ 2}$	Start of data output	500		ns
$t_{DO\ valid}$	Data output valid	357	413	ns
$t_{DO\ tristate}$	Data output tristate		100	ns
t_{CSn}	Pulse width of CSn	500		ns
f_{CLK}	Read-out frequency	>0	1	MHz