Bit number	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
ID	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Reset 0x00000000	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

ID	R/W	Field	Value ID	Value	Description
A	R	ADDRESS			

8.16 QDEC — Quadrature decoder

The Quadrature decoder (QDEC) provides buffered decoding of quadrature-encoded sensor signals. It is suitable for mechanical and optical sensors.

The main features of QDEC are:

- Digital waveform decoding from off-chip quadrature encoder.
- Sample accumulation eliminating hard real-time requirements to be enforced on application.
- Configurable sample period and accumulation to match application requirements.
- Optional input de-bounce filters.
- Optional LED output signal for optical encoders.

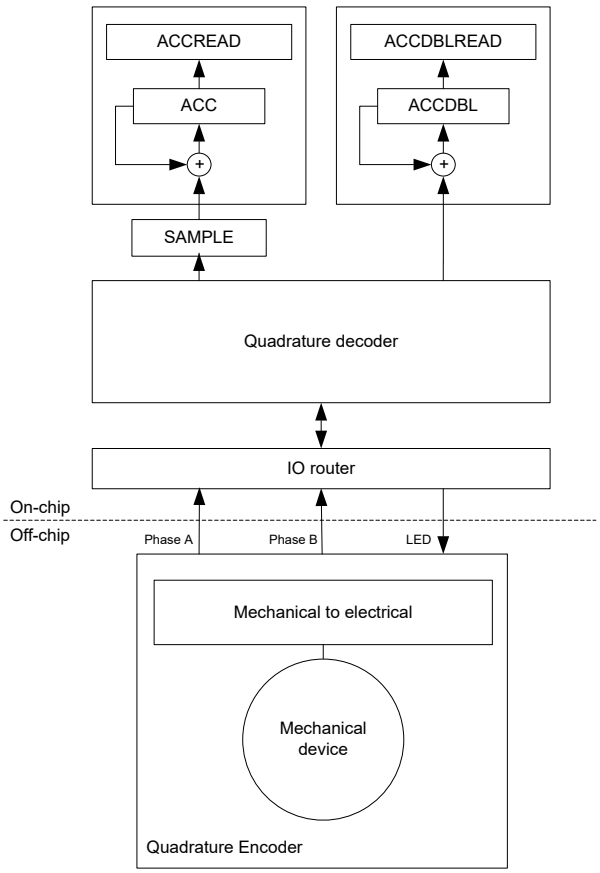

Figure 107: Quadrature decoder configuration

8.16.1 Sampling and decoding

The QDEC decodes the output from an incremental motion encoder by sampling the QDEC phase input pins (A and B).