

AC SuperDrive

The 6th generation ACS motor controllers for pump and traction applications

Kollmorgen is the premier global supplier of AC-drives and related products to the vehicle industry. With the introduction of its 6th generation low voltage pump and traction motor controllers, Kollmorgen sets a new benchmark for quality and reliability, ease of adaptation, and cost of ownership.

AC Superdrive (ACS) is a family of drives with voltages from 24-80V and power levels from 5 to 50kVA, suitable for most battery-powered electric vehicle applications. All ACS models are now available with optional vehicle control I/O in addition to CAN bus communication.

Product Features

- Best in class quality and reliability, achieved through superior design and manufacturing processes
- Rugged design suitable for the demanding environment of electric vehicles. Protected against ingress of dust and water
- Software quality by software development utilizing processes designed to measure up to Automotive SPICE®
- New and improved software platform allows extensive functional customizations for optimal integration into target vehicle
- Powerful ARM processor and operating system allows parallel execution of customized vehicle control tasks and motor control tasks
- Extensive and powerful event handling and data logging simplifies troubleshooting and minimizes vehicle down time
- Kollmorgen standard features such as hill-hold, programmable braking/acceleration characteristics, and best performance curve, are supported in firmware
- Optimal efficiency through state of the art AC technology with flux vector control
- Supports AC induction, AC synchronous, brushless DC motors. Selected models have optional series DC motor output
- Small physical size, available with finned or flat heat sink for flexible integration
- Available as I/O version (35pin interface) or CAN slave (23 pin interface) version
- I/O version allows vehicle control to reside in the ACS, directly interfacing vehicle logic
- Wide range of voltages and power levels, supporting most battery vehicle needs
- Integrated CAN bus with support for diagnostics and software download
- Industry standard CANopen protocol for reliable communication in the vehicle.
- Peer to peer communication allows master-less communication between nodes on CAN bus



General

Motor type	Induction AC, Synchronous AC, Brushless DC
Communication	CAN
Switching frequency	4, 8, 12, 16 kHz
Operating stator frequency	0-250 Hz
Control mode	Speed or current control
Connector	AMP SEAL 23-pin (CAN slave), AMP SEAL 35-pin (I/O version)
Operating temperature	-40°C to + 55°C (-40°F to +131°F)
Storage temperature	-40°C to +70°C (-40°F to +158°F), ambient humidity of 95%
Protection class	IP65
Standards	UL 583 and EC declaration of incorporation of partly completed machinery according to EN1175-1.

Current and Output Ratings

AC SuperDrive Model	Nominal DC supply voltage Udc	Rated current (S2, 2min) ARMS**	Rated current (S2, 1h) ARMS***	Rated power (S2, 2min) kVA**	Rated power (S2, 1h) kVA***	DWG
ACS24XS*	24	350	150	9.0	3.9	1
ACS24S	24	500	200	12.9	5.5	2a, 2b
ACS36XS*	36	300	125	12.1	5.1	1
ACS36S	36	450	200	18.2	8.1	2a, 2b
ACS36S+	36	500	215	20.2	8.7	2a, 2b
ACS36M	36	675	300	27.3	12.1	3a, 3b
ACS36L	36	900	400	36.4	16.2	3a, 3b
ACS48XS*	48	250	100	13.8	5.5	1
ACS48S	48	350	150	19.3	8.3	2a, 2b
ACS48S+	48	450	200	24.8	11.0	2a, 2b
ACS48M	48	525	225	28.9	12.4	3a, 3b
ACS48L	48	700	300	38.6	16.5	3a, 3b
ACS48XL	48	875	375	48.2	20.7	3a, 3b
ACS80S	80	220	100	20.7	9.4	2a, 2b
ACS80M	80	330	150	31.1	14.1	3a, 3b
ACS80L	80	440	200	41.5	18.9	3a, 3b
ACS80XL	80	550	250	51.9	23.6	3a, 3b

* Available with optional 1-quadrant DC motor output (S3 15% rating same as 2min rating)

** 2 minute rating at 8 kHz switching frequency and 25°C ambient temperature

*** 1h rating at 8 kHz switching frequency, 40°C ambient temperature, and 6m/s air flow through finned heat sink

Dimensions [mm]

