

AKA DP CLOSED BUS/RING SOLUTIONS



DP Closed Bus/Ring Operation

Aspin Kemp & Associates (AKA) is the world leader in the delivery and development of DP closed bus/ring system.

AKA was the first company to successfully carry out live short circuit testing on DP3 vessels with a successful and predictable outcome.

Benefits of running a closed bus/ring are:

- More reliable system;
- More time on the contract;
- Reduced fuel costs;
- Reduced environment impact; and
- Reduced maintenance costs.

Where closed bus/ring makes the most sense:

Operating in a closed bus/ring makes sense on any multi-bus system where many operations result in diesel generators being lightly loaded in open bus configuration.

Vessel examples:

- OSV/PSV/DSV/OCV
- Cruise ships
- Ice breakers
- Work boats
- Pipe laying vessels
- Drillships and Semi-submersibles

- Research and science vessels
- Navy vessels
- Heavy lift vessels
- Cable laying vessels

How to operate closed bus/ring:

If a vessel is a good candidate for closed bus/ring operation then it is important the right solution is used to ensure the system utilizes an autonomous, simple and robust design. This ensures potential disadvantages are not introduced to the system.

To operate closed bus/ring, AKA provides the following solutions for a marine power plant:

- AGP (Advanced Generator Protection);
- IPD (Intelligent Power Distribution);
- ATCAP (Advanced Thruster Control and Protection);
- System analysis and integration from design to ship operation; and
- Live short circuit test to meet class requirement.

AKA closed bus/ring technology is the simplest and most robust system in the world.

Why AKA is your best solution?

- AKA has abundant experience in retrofitting from open bus to closed bus on over 30 ships/rigs and has performed over 7 independent live short circuit tests.
- AKA closed bus/ring technology is the simplest and most robust system in the world.
- With AKA's close bus/ring design and products, AKA's integrated system can survive the live short circuit tests required by DNV class. AKA's blackout to recovery period is around 20 seconds only.
- Because of AKA's unique autonomous design topology, AKA can guarantee continued performance throughout the life of the vessel.
- AKA can provide the full power and propulsion system, integrate multiple suppliers hardware or retrofit the AKA system on an existing installation.
- We have over 1GW of closed bus/ring and closed bus/ring installations around the world on over 40 MV of power plants.



ENGINEERING INNOVATIVE SOLUTIONS

www.aka-group.com • sales@aka-group.com

DP CLOSED BUS/RING SOLUTIONS

VESSEL NAME	DEEPWATER PATHFINDER	DEEPWATER FRONTIER	DEEPWATER MILLENNIUM	DEEPWATER SPIRIT	DISCOVERER DEEP SEAS	DISCOVERER INSPIRATION	SEDCO 702	DEEPWATER CHAMPION	DEEPWATER NAUTILUS	DEEPWATER ASGARD	DEEPWATER THALASSA
SHIP TYPE	Ultra Deepwater Drill Ship	Ultra Deepwater Drill Ship	Ultra Deepwater Drill Ship	Ultra Deepwater Drill Ship	Ultra Deepwater Drill Ship	Ultra Deepwater Drill Ship	Semi-Rig	Ultra Deepwater Drill Ship	Semi-Rig	Ultra Deepwater Drill Ship	Ultra Deepwater Drill Ship
SHIP OWNER	Transocean	Transocean	Transocean	Transocean	Transocean	Transocean	Transocean	Transocean	Transocean	Transocean	Transocean
YEAR: BUILT	1998	1999	1999	2000	2001	2008	1973	2010	2000	2014	2015
YEAR: RETROFIT	2007	2011	2007/2013	2009			2007	2011	2007/2014		
CLASSIFICATION	ABS	ABS	ABS	DNV	DNV	DNV	ABS	DNV DYNPOS-AUTRO	ABS	DNV	DNV
MAIN POWER (KW)	6 x 8750KVA (ABB)	3 x 4700KW (ABB)	3 x 4700KW (ABB)	3 x 7030KW (ABB)	ABB Generators	SIEMENS Generators	6 x 3640KVA	6 x 8700KW (ABB)	4 x 4700KW (ABS)	6 X 8125KVA	6 x 6750KW HHI
EMERGENCY POWER (KW)	1 x 470KW (AVK)	1 X 400KW (AVK)	1 X 608HP	1 X 2635KVA (ABB)	1 x 3257HP (ABB)	1 x 2100KW (HYUNDAI)	1 x 1000KW	1 x 1500KW	1 x 500KW (CAT)	1 x 1780KW	1 x 2000KW
POWER DISTRIBUTION	Hammond + AKA	ABB + AKA	ABB + AKA	Baylor + AKA	Baylor + AKA	SIEMENS + AKA	SIEMENS + AKA	ABB + AKA	Hammond + AKA	SIEMENS + AKA	AKA
THRUSTERS	6 x FPP Azimuth	6 x FPP Azimuth	6 x Azimuth (KAMEWA)	6 x Azimuth	6 x Azimuth (RR)	6 x Azimuth (RR)	8 x Azimuth (RR)	6 x FPP Azimuth (RR)		6 x FPP Azimuth (RR)	6 x FPP Azimuth (GE)
DP SYSTEM	DP3	DP3	DP3	DP3	DP3	DP3	DP3	DP2	DP2	DP3	DP3
CLOSE RING SYSTEM	Retrofitted	Retrofitted	Retrofitted	Retrofitted	Retrofitted	Built In	Retrofitted	Retrofitted	Retrofitted	Built In	Built In
SHORT CIRCUIT TEST	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Done By AKA	Done By AKA	Done By AKA	Done By AKA
AKA SUPPLIED EQUIPMENT	AGP	•	•	•	•	•	•	•	•	•	•
	ATCAP				•	•					•
	IPD										•
	UPS	•	•	•	•	•	•	•	•	•	•
	HDF										•
	ESS										•
	DOCUMENT	•	•	•	•	•	•	•	•	•	•

AGP: Advanced Generator Protection System • ATCAP: Advanced Thruster Control and Protection System • IPD: Intelligent Power Distribution System
 UPS: Uninterruptible Power Supply • HDF: Hybrid Drill Floor • ESS: Energy Storage System

Since 2006, AKA has retrofitted over 30 drill ships/rigs to the closed bus/ring operation system. In 2011, AKA demonstrated the DP3 short circuit test on a real vessel and became the first company and the only company that has the ability to deliver DNV DP3 closed bus operation systems.

ADVANTAGES:

- More reliable system: Less impact on propulsion capability on worst case failure modes than in open bus (as long the design is correct).
- Reduced fuel costs: System uses less fuel than the same operation in open bus configuration.
- Reduced environmental impact: System produces less emissions.
- Reduced maintenance costs: Number of diesel operating is based on load, so less diesels need to be running.



HEADQUARTERS
 23 Brook Street
 Montague
 Prince Edward Island
 Canada C0A 1R0

AKA WORLD OFFICES
 North America - Canada
 EU - Bulgaria
 Asia - Singapore, China

SALES
 +1.902.620.4882
 sales@aka-group.com
 info@aka-group.com
www.aka-group.com