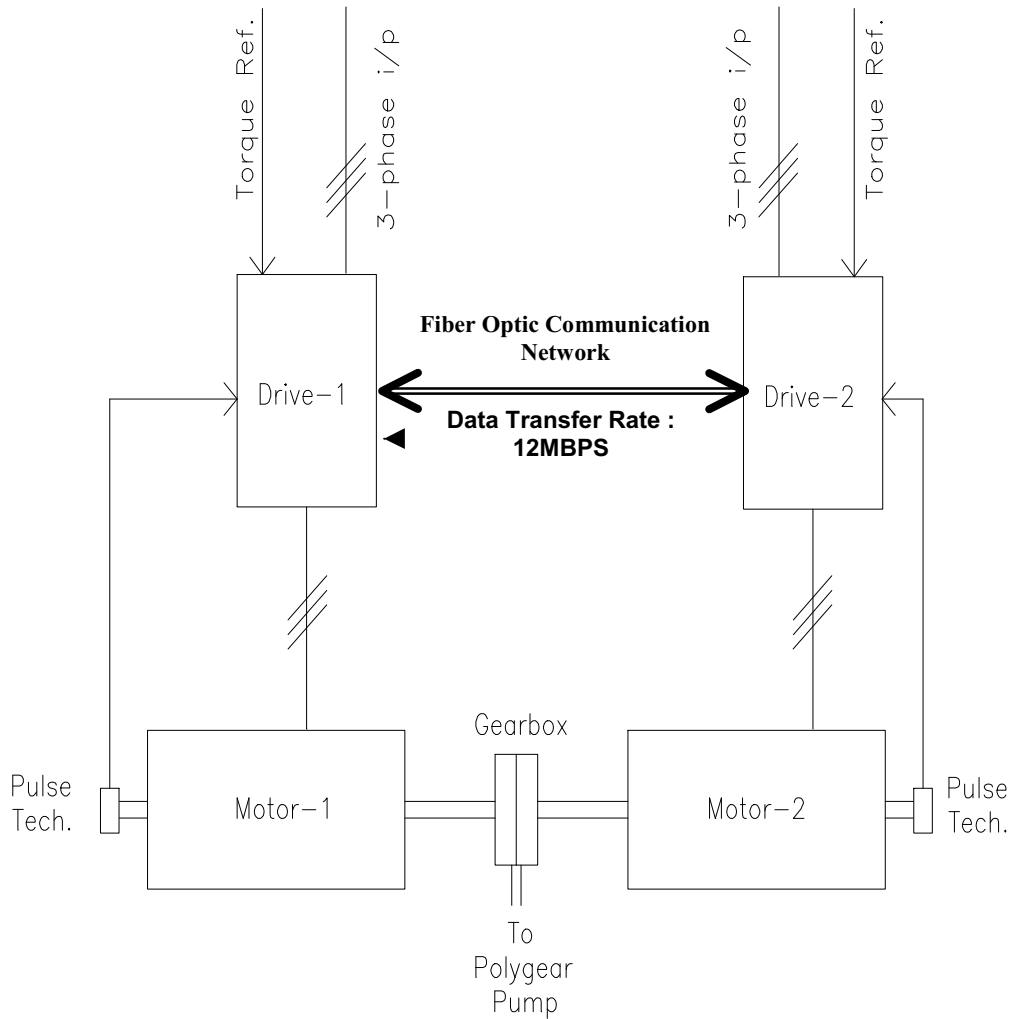


**TANDEM SYSTEM**

- ❖ When two motors are driving a common load, motors are said to be running in TANDEM. Both motors run sharing the load.
- ❖ If anyone motor is unable to deliver required torque, second motor and drive take care of the torque requirement. This is the basic principle of tandem operation.



**Drive and Motor connection details**

- ❖ Tandem is used in extremely critical applications as it involves two times the hardware compare to normal configuration. Two AC drives supply power to two motors. In case of failure of any drive, other drive takes care of total load demand.
- ❖ Customer demands that when motors are running in tandem, they should share the load in approx 50% ratio.

**Hi-Rel Electronics Pvt. Ltd.**

- ❖ After considering two drives and two motors for driving Polygear Pump in continuous polymerization line of MMF plant or any critical application, if there is power failure, both drives will be deprived of power and thus stop the motors. To take care of power dip condition, DC power backup in the form of RIDE THRU module is normally considered.
- ❖ VACON drive has in-built Micro PLC functionality and facility for 12 MBPS communication between drive to drive. These features help both inverters to run in synchronized condition at any different speed and load. No additional hardware is required to run two inverters in synchronization. It is possible through specific application software available in VFD.

**Controls available:**

- ❖ Any of the drives can be started or stopped any time without affecting the motor RPM.
- ❖ In case of failure of one drive while in operation, other should take care of the load and there should be no RPM variation.
- ❖ To ensure almost equal torque sharing by two drives, same torque reference has to be shared by both the drives. So, if we consider one drive as Master, torque reference of Master drive has to be given to Slave drive.
- ❖ In case Master drive is removed for maintenance, Slave will use it's own torque reference. When Master drive is taken in line, Master torque reference will take over the control. (Anyone can be master, anyone can be small.)

If you require any further information of Tandem system please contact us.