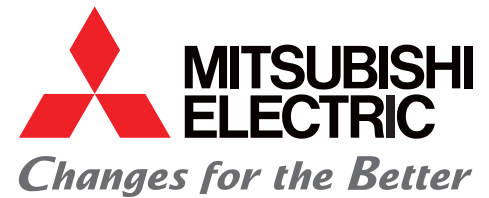




for a greener tomorrow



FR-A800-R2R INVERTER DESIGNED FOR WIND/UNWIND APPLICATIONS

Product Overview



The FR-A800-R2R inverter offers a host of dedicated functions including automatic winding diameter calculations, automatic dancer speed control, and sensorless torque control to perform fast, smooth, and accurate winding and unwinding applications. These complex functions do not require additional sequence or motion control programming to implement because the FR-A800-R2R inverter has a built-in PLC, eliminating the need for a separate controller, and utilizes easy-to-use parameterization to set and enhance functions. Even without advanced knowledge of tension control, users can control winding/unwinding (roll-to-roll) easily with the dedicated functions.

KEY FEATURES:

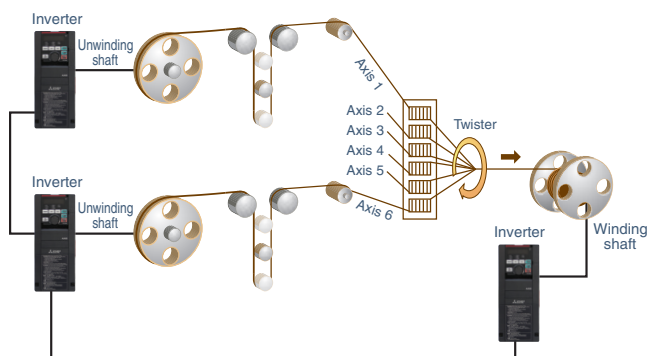
- **Dancer control function** – PID control function keeps the dancer roll position and eliminates hunting, allowing for efficient wind/unwinding applications.
- **Winding diameter compensation function** – Speed and torque is controlled to allow for changes in the diameter of the winding and unwinding shafts during operation for quick and easy system setup.
- **Tension control (inertia compensation/mechanical loss compensation)** – Torque required for acceleration/deceleration and the mechanical loss compensation torque are controlled, keeping material tension constant and reducing wrinkling or deformations within the material roll.
- **Dancer PI automatic tuning function** – Optimum PI gain is automatically set by the inverter, reducing system startup time
- **Speed control proportional gain compensation function** – Actual response level is corrected along with changes in the inertia ratio of the winding/unwinding shafts improving the tracking ability to automatically allow for changes in the diameter, contributing to overall cost savings of the system.



FR-A800-R2R Inverter Designed for Wind/Unwind Applications – Product Overview

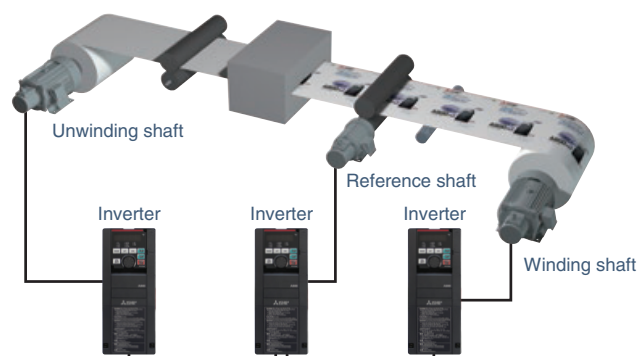
SPEED CONTROL AND GAIN COMPENSATION

PID control utilizes the feedback from the detected dancer roll position or feedback from the tension sensor. Stable control can be achieved in combination with the winding diameter calculation. By adjusting the speed control proportional gain according to the winding diameter, the response level can be kept constant. The actual response level corrections along with the changes in the inertia ratio of the winding and unwinding shafts in order to improve the tracking ability to allow for the changes in the diameter.



TENSION SENSOR FEEDBACK TORQUE CONTROL

The output torque of a motor is controlled to maintain constant tension on the material, by raising the commanded torque to compensate for mechanical loss caused by factors such as friction on the dancer roll or winding/unwinding shaft. During acceleration/deceleration, constant tension is maintained on the material by adjusting the variable tension on the winding and unwinding sides. Adjusting the tension on the material, makes it possible to avoid imperfections such as wrinkles or deformation caused by the increase in diameter. The cushion time should be set for the tension command to avoid sudden changes in roll tension.



STANDARD FR-A800-R2R SERIES LINEUP

A820-	.75HP	1HP	2HP	3HP	5HP	7.5HP	10HP	15HP	20HP
THREE PHASE 200V CLASS	00046-N6R2R	00077-N6R2R	00105-N6R2R	00167-N6R2R	00250-N6R2R	00340-N6R2R	00490-N6R2R	00630-N6R2R	00770-N6R2R
Normal Duty	25HP	30HP	40HP	50HP	60HP	75HP	100HP	125HP	
	00930-N6R2R	01250-N6R2R	01540-60R2R	01870-60R2R	02330-60R2R	03160-60R2R	03800-U6R2R	04750-U6R2R	

A840-	.5HP	1HP	2HP	3HP	5HP	7.5HP	10HP	15HP	20HP
THREE PHASE 400V CLASS	00023-N6R2R	00038-N6R2R	00052-N6R2R	00083-N6R2R	00126-N6R2R	00170-N6R2R	00250-N6R2R	00310-N6R2R	00380-N6R2R
Normal Duty	25HP	30HP	40HP	50HP	60HP	75HP	100HP	150HP	200HP
	00470-N6R2R	00620-N6R2R	00770-60R2R	00930-60R2R	01160-60R2R	01800-60R2R	02160-U6R2R	02600-U6R2R	03250-U6R2R
	200HP	250HP	300HP	350HP	400HP	450HP			
	03610-U6R2R	04320-U6R2R	04810-U6R2R	05470-U6R2R	06100-U6R2R	06830-U6R2R			

FR-A842-	500HP	550HP	650HP	700HP	800HP
THREE PHASE 400V CLASS	07700-U6R2R	08660-U6R2R	09620-U6R2R	10940-U6R2R	12120-U6R2R

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