

# PTSM 0,5/ 3-HH-2,5-SMD R32 - PCB header



1778777

<https://www.phoenixcontact.com/in/products/1778777>

Please be informed that the data shown in this PDF document is generated from our Online Catalog. Please find the complete data in the user documentation. Our General Terms of Use for Downloads are valid.



PCB headers, nominal cross section: 0.5 mm<sup>2</sup>, color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Male connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: PTSM 0,5/..-HH-SMD, pitch: 2.5 mm, mounting: SMD soldering, pin layout: Linear pinning, number of solder pins per potential: 1, plug-in system: COMBICON PTSM, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: 32 mm wide tape, Article with anti-rotation pin

## Your advantages

- Designed for integration into the SMT soldering process
- Supplied in tape-on-reel packing according to IEC 60286-3 for automated mounting
- Additional solder anchors reduce the mechanical strain on the soldering spots

## Commercial Data

Item number	1778777
Packing unit	600 pc
Minimum order quantity	600 pc
Sales Key	AAA
Product Key	AAAUPB
Catalog Page	Page 57 (CC-2011)
GTIN	4046356529983
Weight per Piece (including packing)	1.345 g
Weight per Piece (excluding packing)	1.255 g
Customs tariff number	85366930
Country of origin	IN

1778777

<https://www.phoenixcontact.com/in/products/1778777>

## Technical Data

### Product properties

Type	Standard
Product line	COMBICON Connectors XS
Product type	PCB headers
Product family	PTSM 0,5/..-HH-SMD
Number of positions	3
Pitch	2.5 mm
Number of connections	3
Number of rows	1
Mounting flange	without
Number of potentials	3
Pin layout	Linear pinning
Solder pins per potential	1

### Electrical properties

Nominal current $I_N$	6 A
Nominal voltage $U_N$	160 V
Degree of pollution	3
Contact resistance	3.6 m $\Omega$
Rated voltage (III/3)	50 V
Rated surge voltage (III/3)	2.5 kV
Rated voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
Rated voltage (II/2)	160 V
Rated surge voltage (II/2)	2.5 kV

### Mounting

Mounting type	SMD soldering
Pin layout	Linear pinning

### Processing notes

Process	Reflow soldering
Moisture Sensitive Level	MSL 1
Classification temperature $T_c$	260 °C
Solder cycles in the reflow	3

### Material specifications

#### Material data - contact

Note	WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/JEDEC JESD 201
Contact material	Cu alloy
Surface characteristics	Tin-plated

# PTSM 0,5/ 3-HH-2,5-SMD R32 - PCB header

1778777

<https://www.phoenixcontact.com/in/products/1778777>

Metal surface contact area (top layer)	Tin (3 - 5 µm Sn)
Metal surface contact area (middle layer)	Nickel (1.3 - 3 µm Ni)
Metal surface soldering area (top layer)	Tin (3 - 5 µm Sn)
Metal surface soldering area (middle layer)	Nickel (1.3 - 3 µm Ni)

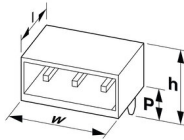
## Material data - housing

Color (Housing)	black (9005)
Insulating material	LCP
Insulating material group	IIIa
CTI according to IEC 60112	175
Flammability rating according to UL 94	V0

## Material data – actuating element

Color ( )	( )
-----------	-----

## Dimensions

Dimensional drawing	
Pitch	2.5 mm
Width [w]	11.3 mm
Height [h]	5 mm
Length [l]	7.5 mm
Installed height	5 mm

## PCB design

Pad geometry	1.2 x 3.2 mm
Pin spacing	2.50 mm

## Mechanical tests

### Insertion and withdrawal forces

Result	Test passed
No. of cycles	25
Insertion strength per pos. approx.	4 N
Withdraw strength per pos. approx.	4 N

### Contact holder in insert

Specification	IEC 60512-15-1:2008-05
Contact holder in insert Requirements >20 N	Test passed

### Resistance of inscriptions

Specification	IEC 60068-2-70:1995-12
Result	Test passed

1778777

<https://www.phoenixcontact.com/in/products/1778777>

## Polarization and coding

Specification	IEC 60512-13-5:2006-02
Result	Test passed

## Visual inspection

Specification	IEC 60512-1-1:2002-02
Result	Test passed

## Dimension check

Specification	IEC 60512-1-2:2002-02
Result	Test passed

## Electrical tests

### Thermal test | Test group C

Specification	IEC 60512-5-1:2002-02
Tested number of positions	8

### Insulation resistance

Specification	IEC 60512-3-1:2002-02
Insulation resistance, neighboring positions	> 5 MΩ

### Air clearances and creepage distances |

Specification	IEC 60664-1:2007-04
Insulating material group	IIIa
Comparative tracking index (IEC 60112)	CTI 175
Rated insulation voltage (III/3)	50 V
Rated surge voltage (III/3)	2.5 kV
minimum clearance value - non-homogenous field (III/3)	1.5 mm
minimum creepage distance (III/3)	1.9 mm
Rated insulation voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
minimum clearance value - non-homogenous field (III/2)	1.5 mm
minimum creepage distance (III/2)	1.6 mm
Rated insulation voltage (II/2)	160 V
Rated surge voltage (II/2)	2.5 kV
minimum clearance value - non-homogenous field (II/2)	1.5 mm
minimum creepage distance (II/2)	1.6 mm

## Environmental and real-life conditions

### Vibration test

Specification	IEC 60068-2-6:2007-12
Frequency	10 - 150 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 Hz ... 60.1 Hz)

# PTSM 0,5/ 3-HH-2,5-SMD R32 - PCB header



1778777

<https://www.phoenixcontact.com/in/products/1778777>

Sweep speed	5g (60.1 Hz ... 150 Hz)
Test duration per axis	2.5 h

## Durability test

Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	1.75 kV
Contact resistance $R_1$	3.6 m $\Omega$
Contact resistance $R_2$	3.8 m $\Omega$
Insertion/withdrawal cycles	25
Insulation resistance, neighboring positions	> 5 M $\Omega$

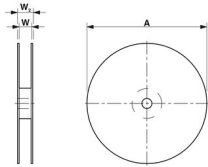
## Climatic test

Specification	ISO 6988:1985-02
Corrosive stress	0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/1 cycle
Thermal stress	100 °C/168 h
Power-frequency withstand voltage	0.84 kV

## Ambient conditions

Ambient temperature (operation)	-40 °C ... 100 °C (dependent on the derating curve)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

## Packaging specifications

Dimensional drawing	
Type of packaging	32 mm wide tape
[W] tape width	32 mm
[W2] coil overall dimension	38.4 mm
[A] coil diameter	330 mm
Outer packaging type	Transparent-Bag
ESD level	(D) electrostatically conductive
Specification	DIN EN 61340-5-1 (VDE 0300-5-1): 2008-07

# PTSM 0,5/ 3-HH-2,5-SMD R32 - PCB header

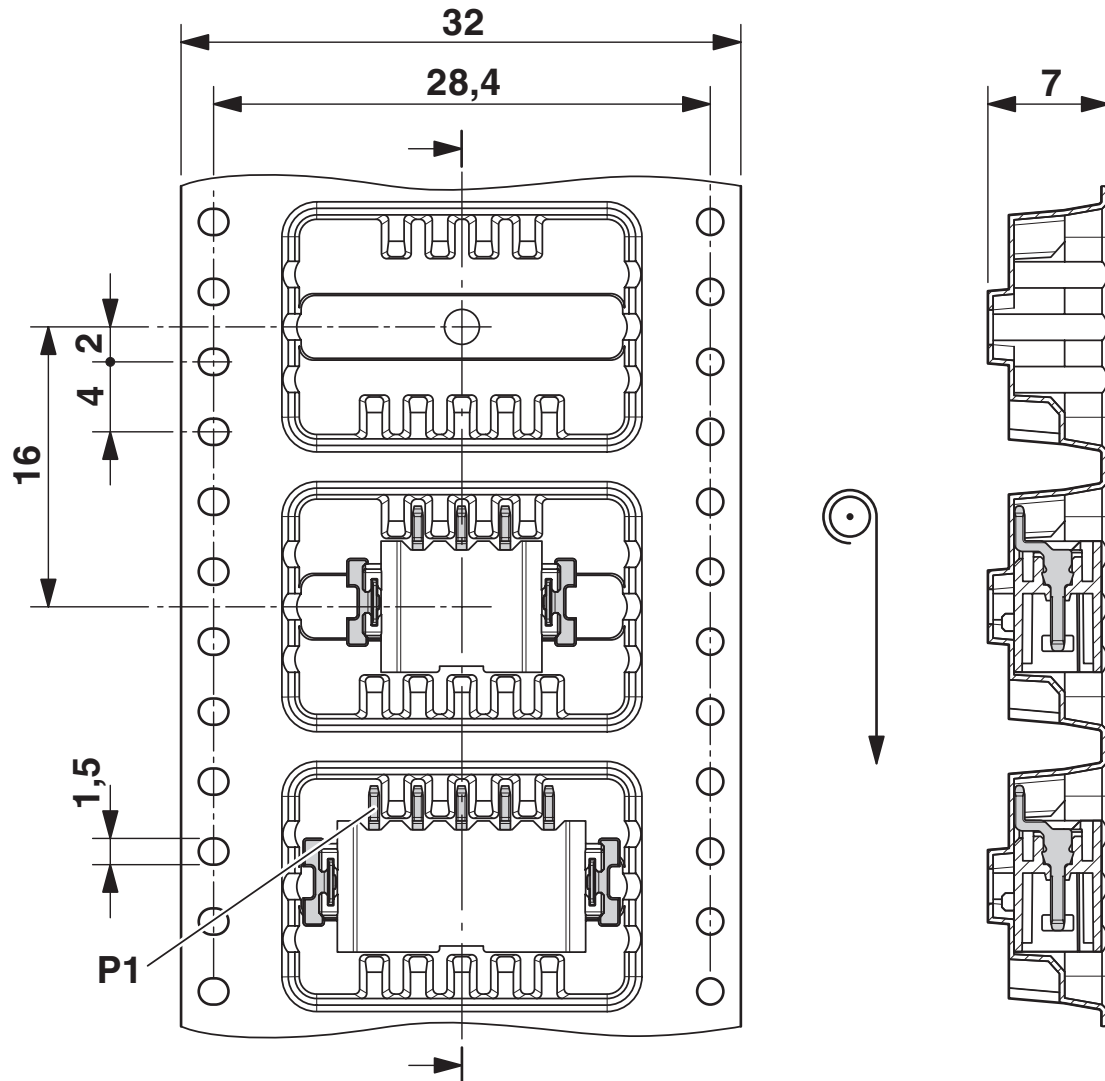
1778777

<https://www.phoenixcontact.com/in/products/1778777>



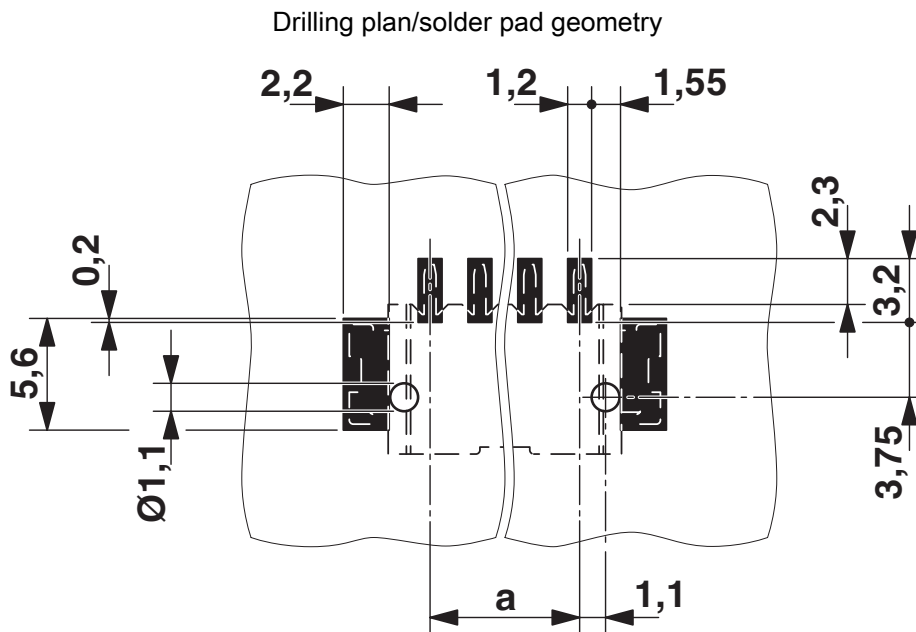
## Drawings

Dimensional drawing

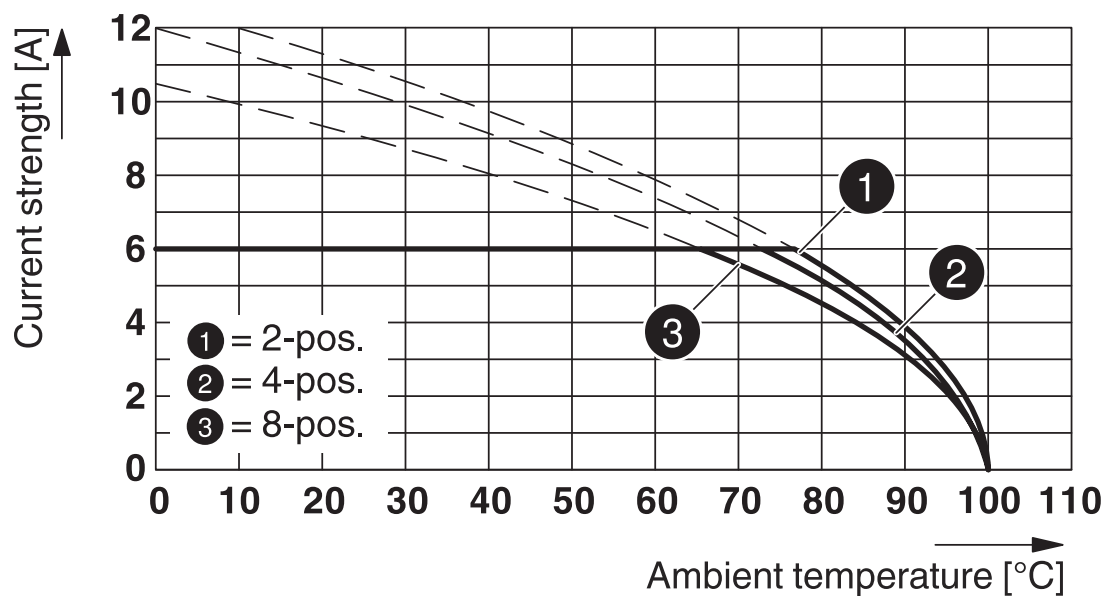


1778777

<https://www.phoenixcontact.com/in/products/1778777>



Diagram

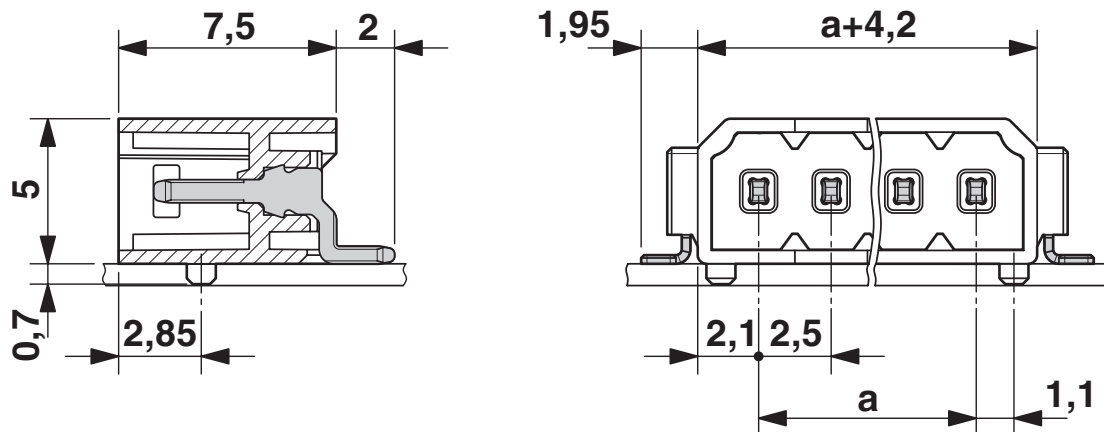


Type: PTSM 0,5/...-PL-2,5 ... with PTSM 0,5/...-HH-2,5-SMD... R...

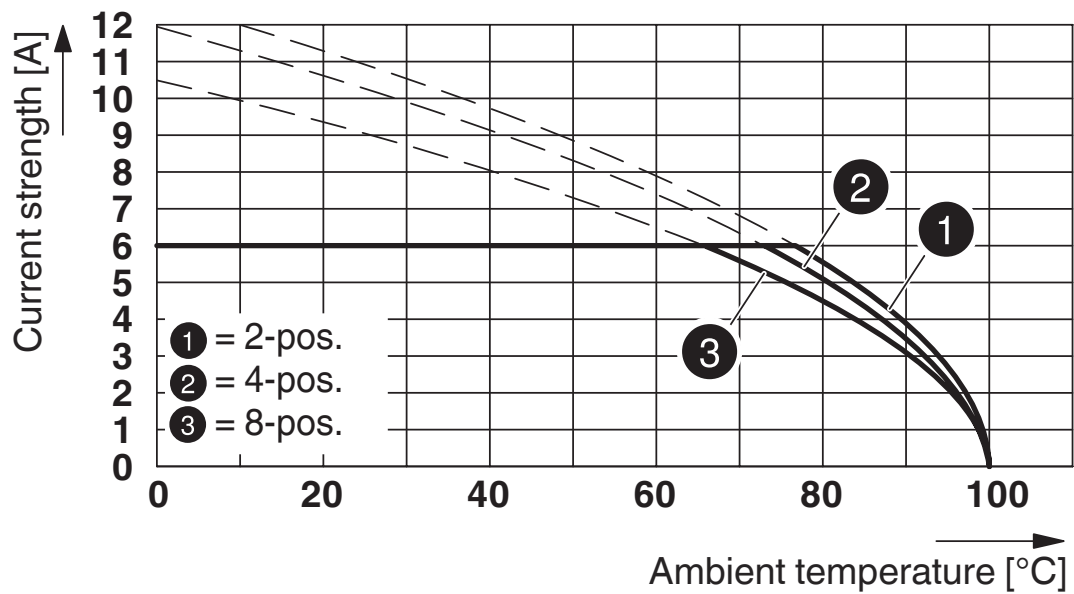
1778777

<https://www.phoenixcontact.com/in/products/1778777>

Dimensional drawing

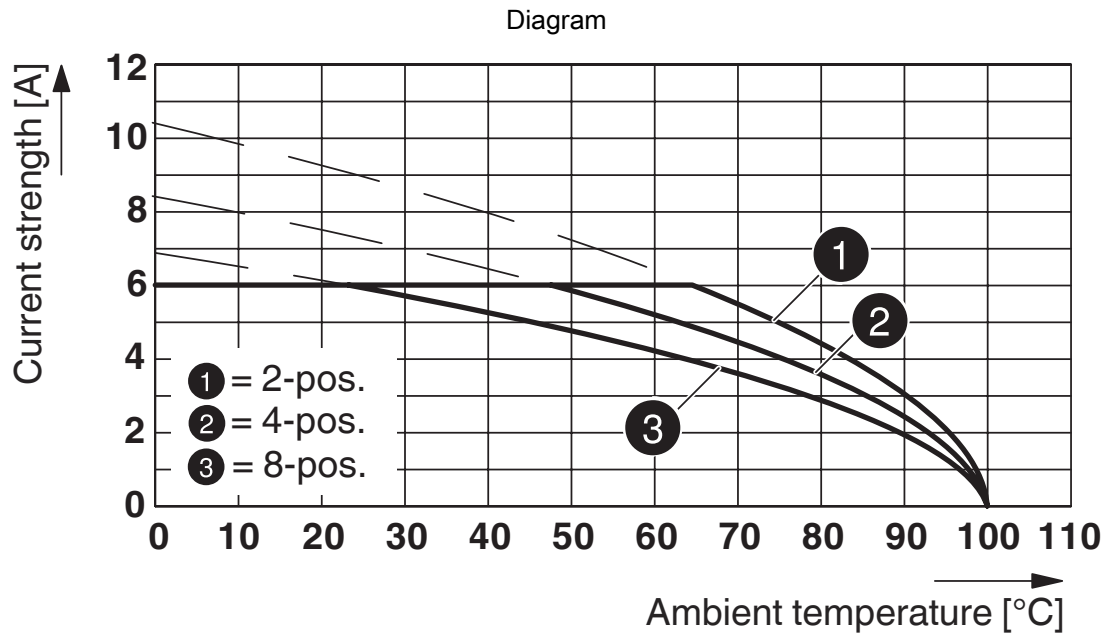


Diagram



Derating curve for: PTSM 0,5/..-P-2,5 with PTSM 0,5/..-HH-2,5-SMD R..





Type: PTSM 0,5/...-HHI-2,5-SMD R... with PTSM 0,5/...-HH-2,5-SMD R...


# PTSM 0,5/ 3-HH-2,5-SMD R32 - PCB header





1778777

<https://www.phoenixcontact.com/in/products/1778777>

## Approvals

 <b>UL Recognized</b> Approval ID: E118976-20130619				
	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
Use group B				
	150 V	5 A	-	-

 <b>EAC</b> Approval ID: B.01687				
--	--	--	--	--

 <b>cULus Recognized</b> Approval ID: E60425-20110108				
	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
Use group B				
	150 V	6 A	-	-

 <b>VDE Zeichengenehmigung</b> Approval ID: 40048497				
	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
	160 V	6 A	-	0.14 - 0.5

# PTSM 0,5/ 3-HH-2,5-SMD R32 - PCB header



1778777

<https://www.phoenixcontact.com/in/products/1778777>

## Classifications

### ECLASS

ECLASS-9.0	27440402
ECLASS-10.0.1	27440402
ECLASS-11.0	27460201

### ETIM

ETIM 8.0	EC002637
----------	----------

### UNSPSC

UNSPSC 21.0	39121400
-------------	----------

# PTSM 0,5/ 3-HH-2,5-SMD R32 - PCB header



1778777

<https://www.phoenixcontact.com/in/products/1778777>

## Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e No hazardous substances above threshold values
------------	---

# PTSM 0,5/ 3-HH-2,5-SMD R32 - PCB header



1778777

<https://www.phoenixcontact.com/in/products/1778777>

## Accessories

### PTSM 0,5/ 3-P-2,5 - Printed-circuit board connector

1778845

<https://www.phoenixcontact.com/in/products/1778845>



PCB connector, nominal cross section: 0.5 mm<sup>2</sup>, color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Female connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: PTSM 0,5/..-P, pitch: 2.5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, plug-in system: COMBICON PTSM, locking: without, mounting: without, type of packaging: packed in cardboard

---

Phoenix Contact 2023 © - all rights reserved  
<https://www.phoenixcontact.com>

PHOENIX CONTACT (I) Pvt. Ltd.  
A-58/2, Okhla Industrial Area, Phase - II, New Delhi-110 020

+91.1275.71420  
[info@phoenixcontact.co.in](mailto:info@phoenixcontact.co.in)